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THE
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SIXTIETH YEAR

NOVEMBER

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SOME DESULTORY THOUGHTS ON MAN IN NATURE.

FEW words are used among us more loosely than "nature." Sometimes it stands for the material universe as a whole. Sometimes it is personified as a sort of goddess, working her own sweet will with material things. Sometimes it expresses the forces which act on matter, and again it stands for material things themselves. It is spoken of as subject to law, but just as often natural law is referred to in terms which imply that nature itself is the lawgiver. It is supposed to be opposed to the equally vague term "supernatural;" but this term is used not merely to denote things above and beyond nature, if there are such, but certain opinions held respecting natural things. On the other hand, the natural is contrasted with the artificial, tho this is always the outcome of natural powers and is certainly not supernatural. Again it is applied to the inherent properties of beings for which we are unable to account, and which we are content to say constitute their nature. We cannot look into the works of any of the more speculative writers of the day without meeting with all these uses of the word, and have to be constantly on our guard lest by a change of its meaning we shall be led to assent to some proposition altogether unfounded.

For illustrations of this convenient tho dangerous ambiguity, I may turn at random to almost any page in Darwin's celebrated work on the "Origin of Species." In the beginning of Chapter III. he speaks of animals "in a state of nature," that is, not in a domesticated or artificial condition, so that here nature is opposed to the devices of man. Then he speaks of

species as "arising in nature," that is, spontaneously produced in the midst of certain external conditions or environment outside of the organic world. A little farther on he speaks of useful varieties as given to man by "the hand of Nature," which here becomes an imaginary person; and it is worthy of notice that in this place the printer or proof-reader has given the word an initial capital, as if a proper name. In the next section he speaks of the "works of Nature" as superior to those of art. Here the word is not only opposed to the artificial, but seems to imply some power above material things and comparable with or excelling the contriving intelligence of man. I do not mean by these examples to imply that Darwin is in this respect more inaccurate than other writers. On the contrary, he is greatly surpassed by many of his contemporaries in the varied and fantastic uses of this versatile word. An illustration which occurs to me here, as at once amusing and instructive, is an expression used by Romanes, one of the cleverest of the followers of the great evolutionist, and which appears to him to give a satisfactory explanation of the mystery of elevation in nature. He says, "Nature selects the best individuals out of each generation to live." Here nature must be an intelligent agent or the statement is simply nonsensical. The same alternative applies to much of the use of the favorite term "natural selection." In short, those who use such modes of expression would be more consistent if they were at once to come back to the definition of Seneca, that nature is "a certain divine purpose manifested in the world."

The derivation of the word gives us the idea of something produced or becoming, and it is curious that the Greek *physis*, tho etymologically distinct, conveys the same meaning—a coincidence which may perhaps lead us to a safe and serviceable definition. Nature rightly understood is, in short, an orderly system of things in time and space, and this not invariable, but in a state of constant movement and progress, whereby it is always becoming something different from what it was. Now man is placed in the midst of this orderly, law-regulated yet ever progressive system, and is himself a part of it; and if we can understand his real relations to its other parts, we shall have made some approximation to a true philosophy. The

subject has been often discussed, but is perhaps not yet quite exhausted.¹

Regarding man as a part of nature, we must hold to his entering into the grand unity of the natural system, and must not set up imaginary antagonisms between man and nature as if he were outside of it. An instance of this appears in Tyn dall's celebrated Belfast address, where he says, in explanation of the errors of certain of the older philosophers, that "the experiences which formed the weft and woof of their theories were chosen not from the study of nature, but from that which lay much nearer to them—the observation of Man;" a statement this which would make man a supernatural or at least a preternatural being. Again, it does not follow because man is a part of nature that he must be precisely on a level with its other parts. There are in nature many planes of existence, and man is no doubt on one of its higher planes and possesses distinguishing powers and properties of his own. Nature, like a perfect organism, is not all eye or all hand, but includes various organs, and so far as we see it in our planet, man is its head, tho we can easily conceive that there may be higher beings in other parts of the universe beyond our ken.

The view which we may take of man's position relatively to the beings which are nearest to him, namely, the lower animals, will depend on our point of sight—whether that of mere anatomy and physiology, or that of psychology and pneumatology as well. This distinction is the more important, since, under the somewhat delusive term "biology," it has been customary to mix up all these considerations, while on the other hand those anatomists who regard all the functions of organic beings as merely mechanical and physical, do not scruple to employ this term biology for their science, tho on their hypothesis there can be no such thing as life, and consequently the use of the word by them must be either superstitious or hypocritical.

Anatomically considered, man is an animal of the class *Mammalia*. In that class, notwithstanding the heroic efforts of some modern detractors from his dignity to place him with the

¹ "Man's Place in Nature," PRINCETON REVIEW, November, 1878. "The Unity of Nature," by the Duke of Argyle, 1884, may be considered as suggestive of the thoughts of this article.

monkeys in the order *Primates*, he undoubtedly belongs to a distinct order. I have elsewhere argued that if he were an extinct animal the study of the bones of his hand or of his head would suffice to convince any competent palæontologist that he represents a distinct order, as far apart from the highest apes as they are from the carnivora. That he belongs to a distinct family no anatomist denies, and the same unanimity of course obtains as to his generic and specific distinctness. On the other hand, no zoological systematist now doubts that all the races of men are specifically identical. Thus we have the anatomical position of man firmly fixed in the system of nature, and he must be content to acknowledge his kinship not only with the higher animals nearest to him, but with the humblest animalcule. With all he shares a common material and many common features of structure.

When we ascend to the somewhat higher plane of physiology we find in a general way the same relationship to animals. Of the four grand leading functions of the animal, nutrition, reproduction, voluntary motion, and sensation, all are performed by man as by other animals. Here, however, there are some marked divergences connected with special anatomical structures on the one hand and with his higher endowments on the other. With regard to food, for example, man might be supposed to be limited by his masticatory and digestive apparatus to succulent vegetable substances. But by virtue of his inventive faculties he is practically unlimited, being able by artificial processes to adapt the whole range of vegetable and animal food substances to his use. He is very poorly furnished with natural tools to aid in procuring food, as claws, tusks, etc., but by invented implements he can practically surpass all other creatures. The long time of helplessness in infancy, while it is necessary for the development of his powers, is a practical disadvantage which leads to many social arrangements and contrivances specially characteristic of man. Man's sensory powers, while inferior in range to those of many other animals, are remarkable for balance and completeness, leading to perceptions of differences in colors, sounds, etc., which lie at the foundation of art. The specialization of the hand again connects itself with contrivances which render an animal naturally de-

fenceless the most formidable of all, and an animal naturally gifted with indifferent locomotive powers able to outstrip all others in speed and range of locomotion. Thus the physiological endowments of man, while common to him with other animals, and in some respects inferior to theirs, present in combination with his higher powers points of difference which lead to the most special and unexpected results.

In his psychical relations, using this term in its narrower sense, we may see still greater divergences from the line of the lower animals. These may no doubt be connected with his greater volume of brain; but recent researches seem to show that brain has more to do with motory and sensory powers than with those that are intellectual, and thus that a larger brain is only indirectly connected with higher mental manifestations. Even in the lower animals it is clear that the ferocity of the tiger, the constructive instinct of the beaver, and the sagacity of the elephant depend on psychical powers which are beyond the reach of the anatomist's knife, and this is still more markedly the case in man. Following in part the ingenious analysis of Mivart, we may regard the psychical powers of man as reflex, instinctive, emotional, and intellectual; and in each of these aspects we shall find points of resemblance to other animals, and of divergence from them. In regard to reflex actions, or those which are merely automatic, inasmuch as they are intended to provide for certain important functions without thought or volition, their development is naturally in the inverse ratio of psychical elevation, and man is consequently in this respect in no way superior to lower animals. The same may be said with reference to instinctive powers, which provide often for complex actions in a spontaneous and unreasoning manner. In these also man is rather deficient than otherwise; and since from their nature they limit their possessors to narrow ranges of activity, and fix them within a definite scope of experience and efficiency, they would be incompatible with those higher and more versatile inventive powers which man possesses. The comb-building instinct of the bee, the nest-weaving instinct of the bird, are fixed and invariable things, obviously incompatible with the varied contrivance of man, and while instinct is perfect within its narrow range it cannot rise

beyond this into the sphere of unlimited thought and contrivance. Higher than mere instinct are the powers of imagination, memory, and association, and here man at once steps beyond his animal associates, and develops these in such a variety of ways that even the rudest tribes of men, who often appear to trust more to these endowments than to higher powers, rise into a plane immeasurably above that of the highest and most intelligent brutes, and toward which they are unable, except to a very limited degree, to raise those of the more domesticable animals which they endeavor to train into companionship with themselves. It is, however, in these domesticated animals that we find the highest degree of approximation to ourselves in emotional development, and this is perhaps one of the points that fits them for such human association. In approaching the higher psychical endowments the affinity of man and the brute appears to diminish and at length to cease, and it is left to him alone to rise into the domain of the rational and ethical.

Those supreme endowments of man we may, following the nomenclature of ancient philosophy and of our Sacred Scriptures, call "pneumatical" or spiritual. They consist of consciousness, reason, and moral volition. That man possesses these powers every one knows; that they exist or can be developed in lower animals no one has succeeded in proving. Here at length we have a severance between man and material nature. Yet it does not divorce him from the unity of nature, except on the principles of atheism. For if it separates him from animals it allies him with the Power who made and planned the animals. To the naturalist the fact that such capacities exist in a being who in his anatomical structure so closely resembles the lower animals, constitutes an evidence of the independent existence of those powers and of their spiritual character and relation to a higher power which, I think, no metaphysical reasoning or materialistic scepticism will suffice to invalidate. It would be presumption, however, from the standpoint of the naturalist to discuss at length the powers of man's spiritual being. I may refer merely to a few points which illustrate at once his connection with other creatures, and his superiority to them as a higher member of nature.

And first we may notice those axiomatic beliefs which lie at the foundation of human reasoning, and which, while apparently in harmony with nature, do not admit of verification except by an experience impossible to finite beings. Whether these are ultimate truths or merely results of the constitution bestowed on us or effects of the direct action of the creative mind on ours, they are to us like the instincts of animals—infallible and unchanging. Yet just as the instincts of animals unfailingly connect them with their surroundings, our intuitive beliefs fit us for understanding nature and for existing in it as our environment. These beliefs also serve to connect man with his fellow man, and in this aspect we may associate with them those universal ideas of right and wrong, of immortality, and of powers above ourselves, which pervade humanity.

Another phase of this spiritual constitution is illustrated by the ways in which man, starting from powers and contrivances common to him and animals, develops them into new and higher uses and results. This is markedly seen in the gift of speech. Man, like other animals, has certain natural utterances expressive of emotions or feelings. He can also, like some of them, imitate the sounds produced by animate or inanimate objects. But when he develops these gifts into a system of speech expressing not mere sounds occurring in nature, but by association and analogy with these, properties and relations of objects and general and abstract ideas, he rises into the higher sphere of the spiritual. He thus elevates a power of utterance common to him with animals to a higher plane, and connecting it with his capacity for understanding nature and arriving at general truths, asserts his kinship to the great creative mind and furnishes a link of connection between the material universe and the spiritual creator.

The manner of existence of man in nature is as well illustrated by his arts and inventions as by anything else; and these serve also to enlighten us as to the distinction between the natural and the artificial. Naturalists often represent man as dependent on nature for the first hints of his useful arts. There are in animal nature tailors, weavers, masons, potters, carpenters, miners, and sailors independently of man, and many of the tools, implements, and machines which he is said

to have invented were perfected in the structures of lower animals long before he came into existence. In all these things man has been an assiduous learner from nature, tho in some of them, as for example in the art of aërial navigation, he has striven in vain to imitate the powers possessed by other animals. But it may well be doubted whether man is in this respect so much an imitator as has been supposed, and whether the resemblance of his plans to those previously realized in nature does not depend on that general fitness of things which suggests to rational minds similar means to secure similar ends. But in saying this we in effect say that man is not only a part of nature, but that his mind is in harmony with the plans of nature, or, in other words, with the methods of the creative mind. Man is also curiously in harmony with external nature in the combination in his works of the ideas of plan and adaptation, of ornament and use. In architecture, for example, devising certain styles or orders, and these for the most part based on imitations of natural things; he adapts these to his ends just as in nature types of structure are adapted to a great variety of uses, and he strives to combine, as in nature, perfect adaptation to use with conformity to type or style. So in his attempts at ornament he copies natural forms, and uses these forms to decorate or conceal parts intended to serve essential purposes in the structure. This is at least the case in the purer styles of construction. It is in the more debased styles that arches, columns, triglyphs, or buttresses are placed where they can serve no useful purpose, and become mere excrescences. But in this case the abnormality resulting breeds in the beholder an unpleasing mental confusion, and causes him, even when he is unable to trace his feelings to their source, to be dissatisfied with the result. Thus man is in harmony with that arrangement of nature which causes every ornamental part to serve some use, and which unites adaptation with plan.

The following of nature must also form the basis of those fine arts which are not necessarily connected with any utility, and in man's pursuit of art of this kind we see one of the most recondite and at first sight inexplicable of his correspondences with the other parts of nature, for there is no other creature

that pursues art for its own sake. Modern archæological discovery has shown that the art of sculpture began with the oldest known races of man, and that they succeeded in producing very accurate imitations of natural objects. But from this primitive starting-point two ways diverge. One leads to the conventional and the grotesque, and this course has been followed by many semi-civilized nations. Another leads to accurate imitation of nature, along with new combinations arising from the play of intellect and imagination. Let us look for a moment at the actual result of the development of these diverse styles of art, and at their effect on the culture of humanity as existing in nature. We may imagine a people who have wholly discarded nature in their art and have devoted themselves to the monstrous and the grotesque. Such a people, so far as art is concerned, separates itself widely from nature and from the mind of the Creator, and its taste and possibly its morals sink to the level of the monsters it produces. Again, we may imagine a people in all respects following nature in a literal and servile manner. Such a people would probably attain to but a very moderate amount of culture, but having a good foundation, it might ultimately build up higher things. Lastly, we may fancy a people who, like the old Greeks, strove to add to the copying of nature a higher and ideal beauty by combining in one the best features of many natural objects, or devising new combinations not found in nature itself. In the first of these conditions of art we have a falling away from or caricaturing of the beauty of nature. In the second we have merely a pupilage to nature. In the third we find man aiming to be himself a creator, but basing his creations on what nature has given him. Thus all art worthy of the name is really a development of nature. It is true the eccentricities of art and fashion are so erratic that they may often seem to have no law. Yet they are all under the rule of nature; and hence even uninstructed common-sense, unless dulled by long familiarity, detects in some degree their incongruity, and tho it may be amused for a time, at length becomes wearied with the mental irritation and nervous disquiet which they produce.

I may be permitted to add that all this applies with still greater force to systems of science and philosophy. Ultimately

these must all be tested by the verities of nature to which man necessarily submits his intellect, and he who builds for aye must build on the solid ground of nature. The natural environment presents itself in this connection as an educator of man. From the moment when infancy begins to exercise its senses on the objects around, this education begins—training the powers of observation and comparison, cultivating the conception of the grand and beautiful, leading to analysis and abstract and general ideas. Left to itself it is true this natural education extends but a little way, and ordinarily it becomes obscured or crushed by the demands of a hard utility, or by an artificial literary culture, or by the habitude of monstrosity and unfitness in art. Yet when rightly directed it is capable of becoming an instrument of the highest culture, intellectual, æsthetic, and even moral. I have in a previous article on evolution in education insisted on the importance of following nature in the education of the young, and of dropping much that is arbitrary and artificial. Here I would merely remark, that when we find that the accurate and systematic study of nature trains most effectually some of the more practical powers of mind, and leads to the highest development of taste for beauty in art, we see in this relation the unity of man and nature, and the unity of both with something higher than either.

It may, however, occur to us here that when we consider man as an improver and innovator in the world, there is much that suggests a contrariety between him and nature, and that instead of being the pupil of his environment he becomes its tyrant. In this aspect man and especially civilized man appears as the enemy of wild nature, so that in those districts which he has most fully subdued many animals and plants have been exterminated, and nearly the whole surface has come under his processes of culture, and has lost the characteristics which belonged to it in its primitive state. Nay more, we find that by certain kinds of so-called culture man tends to exhaust and impoverish the soil, so that it ceases to minister to his comfortable support and becomes a desert. Vast regions of the earth are in this impoverished condition, and the westward march of exhaustion warns us that the time may come when even in comparatively new countries like America the land will

cease to be able to sustain its inhabitants. Behind this stands a still farther and portentous possibility. The resources of chemistry are now being taxed to the utmost to discover methods by which the materials of human food may be produced synthetically, and we may possibly at some future time find that albumen and starch may be manufactured cheaply from their elements by artificial processes. Such a discovery might render man independent of the animal and vegetable kingdoms. Agriculture might become an unnecessary and unprofitable art. A time might come when it would no longer be possible to find on earth a green field, a forest, or a wild animal; and when the whole earth would be one great factory, in which toiling millions were producing all the materials of food, clothing, and shelter. Such a world may never exist, but its possible existence may be imagined, and its contemplation brings vividly before us the vast powers inherent in man as a subverter of the ordinary course of nature. Yet even this ultimate annulling of wild nature would be brought about not by anything preternatural in man, but simply by his placing himself in alliance with certain natural powers and agencies, and by their means attaining dominion over the rest.

Here there rises before us a spectre which science and philosophy appear afraid to face, and which asks the dread question, What is the cause of the apparent abnormality in the relations of man and nature? In attempting to solve this question, we must admit that the position of man even here is not without natural analogies. The stronger preys upon the weaker, the lower form gives place to the higher, and in the progress of geological time old species have died out in favor of newer, and old forms of life have been exterminated by later successors. Man, as the newest and highest of all, has thus the natural right to subdue and rule the world. Yet there can be little doubt that he uses this right unwisely and cruelly, and these terms themselves explain why he does so, because they imply freedom of will. Given a system of nature destitute of any being higher than the instinctive animal, and introduce into it a free rational agent, and you have at once an element of instability. So long as his free thought and purpose continue in harmony with the arrangements of his environment, so long all

will be harmonious, but the very hypothesis of freedom implies that he can act otherwise, and so perfect is the equilibrium of existing things that one wrong or unwise action may unsettle the nice balance, and set in operation trains of causes and effects producing continued and ever-increasing disturbance. This "fall of man" we know as a matter of observation and experience has actually occurred, and it can be retrieved only by casting man back again into the circle of merely instinctive action, or by carrying him forward until by growth in wisdom and knowledge he becomes fitted to be the lord of creation. The first method has been proved unsuccessful by the rebound of humanity against all the attempts to curb and suppress its liberty. The second has been the effort of all reformers and philanthropists since the world began, and its imperfect success affords a strong ground for clinging to the theistic view of nature, for soliciting the intervention of a Power higher than man, and for hoping for a final restitution of all things through the intervention of that Power. Mere materialistic evolution must ever and necessarily fail to account for the higher nature of man and also for his moral aberrations. These only come rationally into the system of nature under the supposition of a Higher Intelligence from whom man emanates and whose nature he shares.

But on this theistic view we are introduced to a kind of unity and of evolution for a future age, which is the great topic of revelation, and is not unknown to science and philosophy, in connection with the law of progress and development deducible from the geological history, in which an ascending series of lower animals culminates in man himself. Why should there not be a new and higher plane of existence to be attained to by humanity—a new geological period, so to speak, in which present anomalies shall be corrected, and the grand unity of the universe and its harmony with its Maker fully restored. This is what Paul anticipates when he tells us of a "pneumatical" or spiritual body to succeed to the present natural or "psychical" one, or what Jesus himself tells us when he says that in the future state we shall be like to the angels. Angels are not known to us as objects of scientific observation, but such an order of beings is quite conceivable, and this not as superna-

tural, but as part of the order of nature. They are created beings like ourselves, subject to the laws of the universe, yet free and intelligent and liable to error, in bodily constitution freed from many of the limitations imposed on us, mentally having higher range and grasp, and consequently masters of natural powers not under our control. In short, we have here pictured to us an order of beings forming a part of nature, yet in their powers as miraculous to us as we might be supposed to be to lower animals could they think of such things. This idea of angels bridges over the otherwise impassable gulf between humanity and deity, and illustrates a higher plane than that of man in his present state but attainable in the future. Dim perceptions of this would seem to constitute the substratum of the ideas of the so-called polytheistic religions. Christianity itself is in this aspect not so much a revelation of the supernatural as the highest bond of the great unity of nature. It reveals to us the perfect man who is also one with God, and the mission of this divine man to restore the harmonies of God and humanity, and consequently also of man with his natural environment in this world and with his spiritual environment in the higher world of the future. If it is true that nature now groans because of man's depravity, and that man himself shares in the evils of this disharmony with nature around him, it is clear that if man could be restored to his true place in nature he would be restored to happiness and to harmony with God, and if on the other hand he can be restored to harmony with God, he will then be restored also to harmony with his natural environment, and so to life and happiness and immortality. It is here that the old story of Eden, and the teaching of Christ, and the prophecy of the New Jerusalem strike the same note which all material nature gives forth when we interrogate it respecting its relations to man. The profound manner in which these truths appear in the teaching of Christ has perhaps not been appreciated as it should, because we have not sought in that teaching the philosophy of nature which it contains. When he points to the common weeds of the fields, and asks us to consider the garments more gorgeous than those of kings in which God has clothed them, and when he says of these same wild-flowers, so daintily made by the Supreme Artificer, that to-day

they are and to-morrow are cast into the oven, he gives us not merely a lesson of faith, but a deep insight into that want of unison which, centring in humanity, reaches all the way from the wild-flower to the God who made it, and requires for its rectification nothing less than the breathing of that Divine Spirit which first evoked order and life out of primeval chaos. When he points out to us the growth of these flowers without any labor of their own, he opens up one of the most profound analogies between the growth of the humblest living thing and that of the new spiritual nature which may be planted in man by that same Divine Spirit.

J. WILLIAM DAWSON.

EMERSON AND THE PHILOSOPHY OF EVOLUTION.

EMERSON is named a Transcendentalist. It is simply another word for Idealist. "What is popularly called Transcendentalism among us," he said himself, in the midst of the Transcendental movement in New England, "is Idealism—Idealism as it appears in 1842." "The Idealism of the present day," he said, "acquired the name of Transcendental from the use of that term by Immanuel Kant, of Königsberg, who replied to the sceptical philosophy of Locke, which insisted that there was nothing in the intellect which was not previously in the experience of the senses, by showing that there was a very important class of ideas, or imperative forms, which did not come by experience, but through which experience was acquired; that these were intuitions of the mind itself; and he denominated them *Transcendental* forms. The extraordinary profoundness and precision of that man's thinking have given vogue to his nomenclature, in Europe and America, to that extent, that whatever belongs to the class of intuitive thought is popularly called at the present day *Transcendental*."

"As thinkers," says Emerson, "mankind have ever divided into two sects, Materialists and Idealists; the first class founded on experience, the second on consciousness; they perceive that the senses are not final; they give us representations of things, but what are the things themselves they cannot tell. The materialist insists on facts, on history, on the force of circumstances, and the animal wants of man; the idealist, on the power of Thought and of Will, on inspiration, on miracle, on individual culture. The idealist concedes all that the other affirms, . . . and then asks him for his grounds of assurance that things are as his senses represent them. But I, he says,

affirm facts not affected by the illusions of sense, facts which are of the same nature as the faculty which reports them. . . . He does not deny the sensuous fact: by no means; but he will not see that alone. . . . Even the materialist Condillac, perhaps the most logical expounder of materialism, was constrained to say: 'Tho we should soar into the heavens, tho we should sink into the abyss, we never go out of ourselves; it is always our own thought that we perceive.' What more could an idealist say?"

In speaking here of Emerson and the philosophy of evolution, and more particularly, as there will be occasion, of Emerson and Darwinism, there is, of course, no intention to imply that we have here an instance of this old antithesis between Idealism and Materialism. Emerson and Darwin represent no such opposition—represent no opposition whatever. It is, indeed, scarcely legitimate to speak of Darwin as having to do directly with philosophy or the problem of the universe at all. He was not a philosopher, but a wise, logical student of the processes of nature, whose results make neither for nor against the principles either of Idealism or Materialism, and were urged for and against neither. Certainly do not make against Idealism—as it is not extravagant to say that Darwin's truth lies in Emerson's philosophy as a natural and essential moment of it. Emerson is precisely a philosopher—ever approaching the problem of the universe both from the soul-side and the nature-side, ever standing, confident and patient, in the presence of the sphinx. Much more than philosopher, but essentially that philosopher, and our greatest, perhaps our only great, philosopher. "The poet," he says, "differs from the philosopher only herein, that the one proposes Beauty as his main end, the other Truth. But the philosopher, not less than the poet, postpones the apparent order and relations of things to the empire of thought. 'The problem of philosophy,' according to Plato, 'is, for all that exists conditionally, to find a ground unconditioned and absolute.'" And it is worthy of noting here, when we speak of Emerson as approaching the world-problem from the side of mind and of Darwin as a student of the principles of nature, that Emerson's own most energetic and systematic attempt to find and formulate the absolute ground of things is the essay on—not the Soul, but *Nature*.

“All that is separate from us, all which philosophy distinguishes as the NOT ME,—that is, both nature and art, all other men and my own body,—must be ranked under this name, NATURE.”

The little book on “Nature” was Emerson’s first authentic utterance. It came a year before the address on the American Scholar, two years before the address to the Harvard Divinity School. It came the year after the publication of Strauss’s “Life of Jesus.” Yet who divined, in the hubbub of that tumbling of old sanctions, that inspiration even then was speaking at the door, fresh, faithful, positive and jubilant, pausing not so much as to note the collapse of images, but simply speaking the word of the soul under the soul’s eternal forms, with the soul’s self-vouching and inimitable accent? “The foregoing generations beheld God and nature face to face; we, through their eyes. Why should not we also enjoy an original relation to the universe? Why should not we have a poetry and philosophy of insight and not of tradition, and a religion by revelation to us, and not the history of theirs? Why should we grope among the dry bones of the past, or put the living generation into masquerade out of its faded wardrobe? The sun shines to-day also. There is more wool and flax in the fields.”

It was a still, small voice, this little book, which came without its author’s name,—still as the coming of the green in May-time,—and few heard it (five hundred copies of the book were disposed of, we are told, only after twelve years); tho as many as heard and received it, to them it gave power to become the sons of God. Its accent was almost drowned by the thunder of Carlyle’s “Sartor Resartus,” which Emerson gave to America at the same time, to preach, in a way so different, the same Everlasting Yea.

Emerson’s first authentic utterance, “Nature” is also, as I have said, the most systematic and sufficient expression of his general philosophy, and the noblest possible expression of a pure idealism—to my thinking, the profoundest philosophical word yet spoken in our New World. It could almost be wished that there might be professorships of this book, “Nature,” in our colleges—a not extravagant suggestion, when we remember in how many professor of philosophy means professor of some book so infinitely smaller and poorer, by William Hamilton or

another Scotchman. I think that any young man going out into life with his mind well opened to the real intension and extension of those views of Nature as Commodity, Beauty, Language and Discipline would have more to be grateful for and wherewith to turn his chaos into cosmos than all chapters on the classes of the faculties can possibly be made to yield. What invitations everywhere, and provocations, to excursions into the history of speculation and of every science! Where should we find a more fruitful text for a *Kritik* of Language, which Max Müller tells us is the *Kritik* which our philosophy most needs next? For here we have no mere formal and punctilious thinking,—improved metric scheme of classing roots, Sanscrit or other,—but are borne directly to that primary question why and how it is that spirit symbolizes and bodies itself in nature and in words, and what is the significance and scope of that speech which man has evoked from himself and which remains, firmly conserving his thought, while the generations pass. Where better or more natural ground from which to consider Darwinism itself and the modern statement of self-development? The very motto of “Nature” might well be adopted as the tersest and most pregnant text for our evolution-philosophy:

“A subtle chain of countless rings
The next unto the farthest brings;
The eye reads omens where it goes,
And speaks all languages the rose;
And, striving to be man, the worm
Mounts through all the spires of form.”

We are brought by “Nature” into contact with the apostolic succession of the lords of thought, from the Egyptians and the Brahmins to Bacon and Swedenborg. Brought into contact especially with the great modern Germans. They are not cited,—but “Nature,” written fresh from the reading of the Germans, of Coleridge and Carlyle, is so instinct with the spirit and purpose of the Transcendental Philosophy, that it were well enough to direct the mind unsatisfied with the book’s own fresh and simple word, and craving statement in syllogistic *a*, *b*, *c*, and corollaries of the manner of Emerson’s approach to the world-problem, to the pages of Kant and Hegel and Fichte. He takes

us, in the very beginning, to where Kant leaves us in that last page of his *Ethics*: "If a man would be alone, let him look at the stars. . . . One might think the atmosphere was made transparent with this design, to give man, in the heavenly bodies, the perpetual presence of the sublime." "Undoubtedly," he says, "we have no questions to ask which are unanswerable. We must trust the perfection of the creation so far as to believe that whatever curiosity the order of things has awakened in our minds, the order of things can satisfy." "I maintain," Kant had said, in his great *Kritik*, "that no question, referring to an object of pure reason, can be insoluble for the same human reason; and that no excuse of inevitable ignorance on our side, or of unfathomable depth on the side of the problem, can release us from the obligation to answer it thoroughly and completely; because the same concept which enables us to ask the question must qualify us to answer it, considering that the object itself does not exist except in the concept." "Beauty," says Emerson in "Nature," "in its largest and profoundest sense, is one expression for the universe. God is the All-fair. Truth and goodness and beauty are but different faces of the same All." This is but another utterance of that central principle of Hegel's Logic—that the Absolute is all and every, and whether we conceive it now as this or that is not a question of false or true, but of completer or less complete definition, a question of the gradation of circles and of the circumference of the present circle.

At the beginning of the chapter on Idealism, Emerson speaks with kindness and with warmth of the extreme subjective theory, for which Fichte stood in the first period of his thought,—or, indeed, for the very illusionism of Berkeley,—and condemns the frivolous who make merry with the theory, as if its consequences were burlesque and as if it affected the stability of nature. "A noble doubt," he says, "perpetually suggests itself, whether the end of Discipline be not the Final Cause of the Universe,—and whether nature outwardly exists. It is a sufficient account of that Appearance we call the World, that God will teach a human mind, and so makes it the receiver of a certain number of congruent sensations, which we call sun and moon, man and woman, house and trade. What difference does it make whether Orion is up there in heaven, or some god paints

the image in the firmament of the soul?" "To the senses and the unrenewed understanding," he says, "belongs a sort of instinctive belief in the absolute existence of nature. Things are ultimates. But the presence of Reason mars this faith. Time and space relations vanish as laws are known. The first effort of thought tends to relax the despotism of the senses, and shows us nature aloof and, as it were, afloat." Turgot said: "He that has never doubted the existence of matter may be assured he has no aptitude for metaphysical inquiries." "It is the uniform effect of culture on the human mind," says Emerson, "not to shake our faith in the stability of particular phenomena," —any distrust of the permanence of laws, he says, would paralyze the faculties of man,—"but to lead us to regard nature as a phenomenon, not a substance." Ideas, he says,—speaking in Platonic phrase,—immortal, necessary, uncreated natures, are accessible to few men, as objects of science, altho all men are capable of being raised by piety or by passion into their region; and in their presence "we think of nature as an appendix to the soul." "Both religion and ethics," he says, "put nature under foot. The first and last lesson of religion is, 'The things that are seen are temporal; the things that are unseen are eternal.'"

To a pure Subjective Idealism, however, Emerson does not commit himself, either in "Nature" or anywhere else. At the very beginning he saw clearly the full circle which it took Fichte his whole lifetime to describe, and the Universal Spirit, constituting and informing all individuals, as all nature, is as distinctly recognized and fundamental in this first utterance as in "Worship" and "The Over-Soul," or as in Fichte's "Way to the Blessed Life." "Idealism," he says,—Subjective Idealism,—"acquaints us with the total disparity between the evidence of our own being and the evidence of the world's being. The one is perfect; the other, incapable of any assurance. . . . Yet, if Idealism only deny the existence of matter, it does not satisfy the demands of the spirit. It leaves God out of me. Then the heart resists it, because it balks the affections in denying substantive being to men and women. Nature is so pervaded with human life, that there is something of humanity in all, and in every particular. But this theory makes nature foreign to me, and does not

account for that consanguinity which we acknowledge in it." Its significance and value, therefore, for Emerson, are simply this: that it serves "to apprise us of the eternal distinction between the soul and the world," vouching the mind to be of the fundamental nature of things. But a complete philosophy demands much more. Emerson's own philosophy goes much beyond. Would we have a just statement, in one word, of that philosophy, we have it in this same "Nature." I know of no other passage where so much of his fundamental thought is so well balanced and compacted as in this following:

"Man is conscious of an universal soul within or behind his individual life, wherein, as in a firmament, the natures of Justice, Truth, Love, Freedom, arise and shine. This universal soul he calls Reason: it is not mine or thine, or his, but we are its; we are its property and men. And the blue sky in which the private earth is buried, the sky with its eternal calm, and full of everlasting orbs, is the type of Reason. That which, intellectually considered, we call Reason, considered in relation to nature, we call Spirit. Spirit is the creator. Spirit hath life in itself. And man in all ages and countries embodies it in his language, as the FATHER."

Nature, to Emerson, "always speaks of Spirit. . . . It is a great shadow pointing always to the sun behind us." "The aspect of nature is devout. Like the figure of Jesus, she stands with bended head, and hands folded upon the breast. . . . The noblest ministry of nature is to stand as the apparition of God. It is the organ through which the universal spirit speaks to the individual, and strives to lead back the individual to it." "The world proceeds from the same spirit as the body of man. It is a remoter and inferior incarnation of God, a projection of God in the unconscious. But it is not, like the body, now subjected to the human will. Its serene order is inviolable by us. It is therefore, to us, a fixed point whereby we may measure our departure. We are as much strangers in nature as we are aliens from God."

This last thought Emerson returns to more than once. "Man is fallen," he says, in a later essay; "nature is erect and serves as a differential thermometer, detecting the presence or absence of the divine sentiment in man. By fault of our dulness

and selfishness we are looking up to nature, but when we are convalescent nature will look up to us. We see the foaming brook with compunction: if our own life flowed with the right energy, we should shame the brook."

An incarnation of God—this, then, is what the universe is to Emerson. "There seems to be a necessity in spirit," he says, "to manifest itself in material forms; and day and night, river and storm, beast and bird, acid and alkali, pre-exist in necessary Ideas in the mind of God, and are what they are by virtue of preceding affections, in the world of spirit." "In the divine order," he says, in the address on "The Method of Nature," "intellect is primary; nature, secondary; it is the memory of the mind. That which once existed in intellect as pure law has now taken body as Nature. It existed already in the mind in solution; now, it has been precipitated, and the bright sediment is the world." Nature he views purely as the projection and symbol of spirit. "Every natural fact is a symbol of some spiritual fact." "Every object rightly seen unlocks a new faculty of the soul." If you wish to understand intellectual philosophy, he said, study natural science. Every time you discover a law of things you discover a principle of mind. Every law of nature, he said, in his lectures on the Natural History of the Intellect, is a law of mind; and it is quite indifferent, he said boldly, in a connection where he would not be misunderstood, whether we say "all is matter" or "all is spirit." For to him matter is all spiritualized, is spirit's other. Carlyle, it will be remembered, had a certain kindness, as opposed to the old dualism, to "your frightful theory of materialism, of man's being but a body, and therefore at least once more a unity." This, he said, may be the paroxysm which was critical, and the beginning of cure.

This thought, that everything in the phenomenal world takes place at once mechanically and metaphysically,—the *source* of the mechanical, however, being in the metaphysical,—was a very constant and fundamental thought with Emerson. "A perfect parallelism," he says, almost in the words of Leibnitz, "exists between nature and the laws of thought." The whole of nature agrees with the whole of thought." Precisely herein,

indeed, is Emerson's key to the interpretation of nature, as we shall have occasion to consider more carefully. "Things are knowable," he says, in the essay on Plato, "because being from one, things correspond. There is a scale; and the correspondence of heaven to earth, of matter to mind, of the part to the whole, is our guide."

The source of Nature in Universal Spirit, says Emerson, is betrayed by that intimate unity which so pervades all its forms as to make each particle a microcosm, which faithfully renders the likeness of the world. In "The Sphinx," the first poem of his first collection, thirty years before Tennyson made his most compact expression of the central truth,—

"Flower in the crannied wall, . . .
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

Emerson, as Mr. Stedman has observed, had put it in this wise:

"Through a thousand voices
Spoke the universal dame:
Who telleth one of my meanings
Is master of all I am."

"A leaf, a drop, a crystal, a moment of time," says Emerson in "Nature," "is related to the whole, and partakes of the perfection of the whole." "The granite is differenced in its laws only by the more or less of heat from the river that wears it away. The river, as it flows, resembles the air that flows over it; the air resembles the light which traverses it with more subtle currents; the light resembles the heat which rides with it through space. Each creature is only a modification of the other." To this great fact of the correlation and the transmutation of forces he returns ever—and to the truth beyond, that all force is quickly driven where it must be spoken of ideally, in terms of thought, of will and intellect. He observes how the law of harmonic sounds reappears in the harmonic colors. He dwells with interest on the fact that that picture which we have of outer nature is no more conditioned by the landscape than by the eye itself. The structure of this it is which determines out-

line, color, motion and grouping. Nature, too, "always wears the colors of the spirit." "The same scene which yesterday breathed perfume and glittered as for the frolic of the nymphs, is overspread with melancholy to-day. To a man laboring under calamity, the heat of his own fire hath sadness in it. There is a kind of contempt of the landscape felt by him who has just lost by death a dear friend. The sky is less grand as it shuts down over less worth in the population."

"There is nothing lucky or capricious in these analogies," says Emerson. "This relation between the mind and matter is not fancied by some poet, but stands in the will of God, and so is free to be known by all men. It appears to men, or it does not appear. A ray of relation passes from all other being to man; and neither can man be understood without these objects, nor these objects without man."

As with the intellectual, so too with the moral. "The laws of moral nature," says Emerson, "answer to those of matter as face to face in a glass." This thought was fundamental in his ethics, and he lost no good occasion to emphasize and urge it.¹ It was part of that grand creed which he spoke from the platform of the Free Religious Association, fifteen years ago: "The moral sentiment speaks to every man the law after which the universe was made." It was the last word of the famous Harvard address of 1838: "I look for the new Teacher, that shall follow so far those shining laws, that he shall see them come full circle; shall see the world to be the mirror of the soul; shall see the identity of the law of gravitation with purity of heart; and shall show that the Ought, that Duty, is one thing with Science, with Beauty, and with Joy." It is hinted in "The Preacher"—which, read to the Harvard students of religion forty years after the first address, somehow echoes

¹ This thought of Emerson's, which appears constantly in his writings in most striking forms, and which seems to me of fundamental importance in ethics, I have presented with some fullness in a lecture on "Emerson's Ethics," read at the Concord School of Philosophy and intended to appear in the volume of Concord lectures on Emerson. I would respectfully ask attention to this study from those for whom the present paper may have interest, not only for the sake of the thought here referred to, but for the sake of a clearer exhibition of the relation of evolution to morals, as conceived by Emerson, than is here possible.

every sentiment of that:—"The next age will recognize the true eternity of the law, its presence to you and me, its equal energy in what is called brute nature as in what is called sacred history." But the whole thought was already firmly grasped and clearly formulated in "Nature." "All things are moral," he said here, "and in their boundless changes have an unceasing reference to spiritual nature." "Every natural process is a version of a moral sentence. The moral law lies at the centre of nature and radiates to the circumference." Every chemical change, every change of vegetation, every animal function "shall hint or thunder to man the laws of right and wrong and echo the Ten Commandments." He cannot doubt that the moral sentiment which thus scents the air, grows in the grain, and impregnates the waters of the world, is caught from them by man. "Who can guess," he says, "how much firmness the sea-beaten rock has taught the fisherman? how much tranquillity has been reflected to man from the azure sky, over whose unspotted deeps the winds for evermore drive flocks of stormy clouds, and leave no wrinkle or stain? how much industry and providence and affection we have caught from the pantomime of brutes?" Read again the whole of that chapter upon Discipline. Nature is a discipline, he says,—school alike for the understanding and for morals. As Fichte said: Nature is the objectified material of duty.

A notion is abroad—reports itself, upon occasion, in the newspapers—that Idealism is unpractical, careless of fact, even inimical to exact science. Renan has said—I think it is he—that every position has so much to say for itself and is so plausible from some point, that, could a man live long enough, with his mind fresh and virile, he would doubtless champion successively every doctrine and belong to every sect. And thus for each one of us may be reserved the mumps-and-measles period of a believed antinomy between thought and fact. "To a sound judgment," says Emerson, "the most abstract truth is the most practical." But the word of your rigorous and vigorous henchman of "fact" is, Come down from the barren heights of speculation and out of the clouds, to the firm ground of the physical and positive. Shut your *Kritik* of Reason and open your Palæontology, that so we may have some reliable and useful knowl-

edge. In like manner we hear sincere and earnest men counsel, Give up belief in God, that you may economize your forces for humanity; give up believing in the immortal nature of you, that so you may concentrate on a new earth. They think the law of parsimony rules the soul, instead of that other, that to him that hath shall be given, and that giving is getting and qualifying for giving more. Stop this sending of gospel and schoolmaster to Africa and the isles of the sea, they say, and attend to the ignorance and squalor round the corner,—and they ridicule the missionary society. Yet they have to blush more than this other when asked for the census of their own neighborhood activities and self-sacrifices, and for the page of their cash-book which chronicles their dealings with the local vice.

The positivist's appeal to the idealist to leave his Idealism, to strengthen the ranks of reform and regenerate society, is irony's *ne plus ultra*. Its answer is Moses and the prophets; its answer is Christ and the Church; its answer is Luther and Channing and Parker; its answer is Milton and Vane, Plymouth Rock, Samuel Adams and Bunker Hill; its answer is Rousseau and Turgot, the voice of Fichte amidst Napoleon's drums, Cobden and the Corn-law Rhymer, Mazzini and Castelar; its answer is Garrison, the Emancipation Proclamation, and the scaffold of John Brown; its answer is the Transcendental Movement in New England. Never in New England, it seems, was such a turn-out of men to regenerate society as in those two decades. Each man inoculated with the "new views" straight-way appears with a recipe for the divine commonwealth in his pocket. It shall come by Brook Farm, by eating potatoes, by temperance, by conventions,—a perennial Anniversary Week,—but it shall come somehow. The labor of those men and women for a new earth was as energetic as their faith in its coming was indefectible and buoyant. But for their labor and their faith, the cause of reform among us would be infinitely behind where it is to-day. On the whole it seems to me, in the light of our own history and thought, that, if our social reformers desiderate in the people a zeal according to knowledge, they had better pray for a new influx of Transcendentalism rather than seek to minimize what we have. For if the time ever should come

when Transcendentalism should be "at bay" in America, then Reform would simply find that it had killed its goose.

The same answer which is given him who seeks to antagonize Idealism and philanthropy stands for him who seeks to show a conflict between speculation and science. The answer is Aristotle and Bacon, Descartes and Leibnitz, Kant, Goethe and Emerson. Kant, and not Laplace, was the true author of the nebular hypothesis, and his name will be identified with it as completely as Newton's with the law of gravitation. He, too, distinctly enunciated the doctrine—altho he called it "a daring adventure of reason"—of the descent of all organic beings from a common original mother, as an hypothesis which "alone is in harmony with the principle of the mechanism of nature, without which a science of nature is altogether impossible." Goethe said, "Nothing could hinder me from boldly maintaining this 'adventure of reason,' as the sage of Königsberg calls it;" and Goethe's own "Metamorphosis of Plants," his "Metamorphosis of Animals," and the whole body of his valuable works in morphology, biology and geology are clear anticipations, and much more than anticipations, of Darwinism and our evolution-theory. "What kind of God," said Goethe, "were he who impelled things only from outside, and let the universe twirl round his finger? God moves the world inwardly, cherishes nature in himself, himself in nature, so that whatever lives and works and exists in him never misses his power nor his spirit." And again: "All members form themselves according to eternal laws, and the rarest form preserves in secret the primitive type. The form determines the animal's mode of life, while, reciprocally, the mode of life reacts powerfully on all form."

Some have raised the objection that these and similar passages of Goethe are "no 'scientific truths,' but only poetical or rhetorical flourishes and images: the type he meant was only an 'ideal pro-type,' no real genealogical form." "This objection," says Professor Haeckel,—and the answer serves for similar objections to Emerson,—"betrays little understanding of the greatest German genius. He who is acquainted with Goethe's thoroughly objective mode of thought, who appreciates his thoroughly living and realistic view of nature, will entertain no doubt that under that 'type' was intended a perfectly real

descent of kindred organisms from common genealogical form."

This truth, that the great pioneering and revolutionizing work in science and the study of nature has so commonly been done by those who have approached the problem of the universe on the thought-side, is certainly interesting and significant. To the man who thinks, it seems to me, not at all a strange thing; yet something surely worth making a note of by the stickler for "facts." "Man," says Emerson, "carries the world in his head, the whole astronomy and chemistry suspended in a thought. Because the history of nature is charactered in his brain, therefore is he the prophet and discoverer of her secrets. Every known fact in natural science was divined by the presentiment of somebody, before it was actually verified." He quotes with pleasure George Herbert's quaint and pregnant lines upon man's "private amity" with the herbs and the stars. He might have quoted those lines of Milton, which Channing quotes :

" One Almighty is, from whom
All things proceed, and up to him return,
If not depraved from good, 'created all
Such to perfection, *one first matter all*
Indued with various forms, various degrees
Of substance, and, in things that live, of life :
But more refined, more spirituous and pure,
As nearer to him placed or nearer tending,
Each in their several active spheres assigned,
Till body up to spirit work, in bounds
Proportioned to each kind. So from the root
Springs lighter the green stalk, from thence the leaves
More airy, last the bright consummate flower
Spirits odorous breathes ; flowers and their fruit,
Man's nourishment, by gradual scale sublimed,
To vital spirits aspire, to animal,
To intellectual."—*Paradise Lost*, Book V., lines 469-485.

But nothing could illustrate so strikingly the truth that the method of thought is the method of nature as what is called "the Darwinism of Emerson himself—the anticipations and clear expression everywhere of that view of development which our science has adopted and made so cardinal. Of this Darwinism in Emerson much has been made, yet not too much. Darwinism, as we have already noticed, was made the very

motto of "Nature," twenty years before "The Origin of Species" was written. "Nature" is full of Darwinism. "It is essential to a true theory of nature and of man," Emerson said, "that it should contain somewhat progressive." And in the essay on "Fate" he says, "No statement of the universe can have any soundness which does not admit its ascending effort." His quick interest in the questions of natural science declares itself in "Nature" as genuinely as his interest in the soul and life. "Open any recent journal of science," he said, "and weigh the problems suggested concerning Light, Heat, Electricity, Magnetism, Physiology, Geology." But he has slight regard for that physiology or physics which merely concerns itself with particulars and heaps up facts, with no curiosity or thought concerning relations, tendency, and end. "Empirical science," he says, "is apt to cloud the sight, and, by the very knowledge of functions and processes, to bereave the student of the manly contemplation of the whole." "There are far more excellent qualities in the student," he says, "than preciseness and infallibility. It is not so pertinent to man to know all the individuals of the animal kingdom as it is to know whence and whereto is this tyrannizing unity in his constitution, which evermore separates and classifies things, endeavoring to reduce the most diverse to one form. When I behold a rich landscape, it is less to my purpose to recite correctly the order and superposition of the strata, than to know why all thought of multitude is lost in a tranquil sense of unity. I cannot greatly honor minuteness in details so long as there is no hint to explain the relation between things and thoughts; no ray upon the *metaphysics* of conchology, of botany, of the arts, to show the relation of the forms of flowers, shells, animals, architecture, to the mind, and build science upon ideas."

Emerson remarks upon "that wonderful congruity which subsists between man and the world—of which he is the lord, not because he is the most subtle inhabitant, but because he is its head and heart, and finds something of himself in every great and small thing." And this view, thus clear and explicit at the very beginning, in the pages of "Nature," becomes ever more pronounced and prominent in his maturer thought. Half a dozen years later he says, "We can point nowhere to anything final, but tendency appears on all hands; planet, system, constella-

tion, total nature is growing like a field of maize in July, is becoming somewhat else. The embryo does not more strive to be man than yonder burr of light we call a nebula tends to be a ring, a comet, a globe, and a parent of new suns." This process of evolution, he says, " publishes itself in creatures, reaching from particles to spicula, through transformation on transformation to the highest symmetries, arriving at consummate results without a shock or a leap. . . . How far off is the trilobite, how far the quadruped! How inconceivably remote is man! All duly arrive, and then race after race of men. It is a long way from granite to oyster; farther yet to Plato, and the preaching of the immortality of the soul. Yet all must come, as surely as the first atom has two sides." This, note, twenty years before men heard of "Darwinism." "In ignorant ages," says Emerson, "it was common to vaunt the human superiority by underrating the instinct of other animals. Better discernment finds that the only difference is of less and more." Again: "'Tis a long scale from the gorilla to the gentleman,—from the Gorilla to Plato, Newton, Shakespeare,—to the sanctities of religion, to the refinements of legislation, the summits of science, art, and poetry. The beginnings are slow and infirm, but 'tis an always accelerated march."

Passages of this sort could of course be multiplied indefinitely. The reference in "Bacchus" to the ascent of life from form to form still remains incomparable, as Mr. Stedman has observed, for terseness and poetic illumination:

"I, drinking this,
Shall hear far Chaos talk with me;
Kings unborn shall walk with me;
And the poor grass shall plot and plan
What it will do when it is man."

Lines in "Wood-notes" put the same in different phrase. Perhaps the most definite and sufficient statement of the doctrine by Emerson is that in the second essay on Plato. "Modern science," he said here,—this was ten years before Darwin,—"by the extent of its generalizations has learned to indemnify the student of man for the defects of individuals, by tracing growth and ascent in races, and, by the simple expedient of lighting up the vast background, generates a feeling of complacency and

hope. The human being has the saurian and the plant in his rear. His arts and sciences, the easy issue of his brain, look glorious when prospectively beheld from the distant brain of ox, crocodile, and fish. It seems as if nature, in regarding the geologic night behind her, when, in five or six millenniums, she has turned out five or six men, as Homer, Phidias, Menu, and Columbus, was nowise discontented with the result. These samples attested the virtue of the tree. These were a clear amelioration of trilobite and saurus, and a good basis for further proceeding. With this artist, time and space are cheap, and she is insensible to what you say of tedious preparation. She waited tranquilly the flowing periods of palæontology for the hour to be struck when man should arrive."

If Idealism be a true philosophy, then it was but natural and regular that Emerson should see and say this betimes. If Darwinism be a true theory of the origin of species and the descent of man, then this insight and conclusion bear notable witness to the primary virtue and validity of Emerson's method. Indeed, if we consider, upon what presupposition are this insight and conclusion, if they be true, so likely and so clear as upon his?

"The possibility of interpretation," he says, "lies in the identity of the observer with the observed. Each material thing has its celestial side; has its translation, through humanity, into the spiritual and necessary sphere." "The reason why man knows about them is that he is of them; he has just come out of nature, or from being a part of that thing. Man, made of the dust of the world, does not forget his origin; and all that is yet inanimate will one day speak and reason." "I announce the good of being interpenetrated by the mind that made nature; this benefit, namely, that it can understand nature, which it made and maketh. Nature is good, but intellect is better: as the law-giver is before the law-receiver."

Intellect is the supernatural, the creator and the sap of nature. Intellect is God, it is the mind in man. "Man must look at nature with a supernatural eye," says Emerson. "Every natural fact is an emanation. Not the cause, but an ever novel effect, nature descends always from above. The beauty of these fair objects is imparted into them from a metaphysical and eternal spring. In all animal and vegetable forms no chemistry,

no mechanics, can account for the facts; but a mysterious principle of life must be assumed, which not only inhabits the organ, but makes the organ." This is the metaphysics of evolution, its philosophy, with Emerson.

And what of man in nature—what of the mind? We are brought by this word to Emerson's point of view. Man is the projection of God in the self-conscious. "The foundations of man," says Emerson, "are not in matter, but in spirit"—and "the element of spirit is eternity." "Man pretends to give account of himself to himself, but at last what has he to recite but the fact that there is a Life not to be described or known otherwise than by possession? What account can he give of his essence more than *so it was to be?* The *royal* reason, the Grace of God, seems the only description of our multiform but ever identical fact."

"I praise with wonder," he says, "this great reality, this Supreme Presence, which seems to drown all things in the deluge of its light. What man, seeing this, can lose it from his thoughts, or entertain a meaner subject? The entrance of this into his mind seems to be the birth of man. We cannot describe the natural history of the soul, but we know that it is divine. I cannot tell if these wonderful qualities which house to-day in this mortal frame shall ever reassemble in equal activity in a similar frame, or whether they have before had a natural history like that of this body; but this one thing I know, that these qualities did not now begin to exist, cannot be sick with my sickness, nor buried in any grave; but that they circulate through the Universe: before the world was, they were. Nothing can bar them out, or shut them in; they penetrate the ocean and land, space and time, form and essence, and hold the key to universal nature. I draw from this faith courage and hope. All things are known to the soul. It is not to be surprised by any communication. Nothing can be greater than it."

"Every scripture is to be interpreted by the same spirit which gave it forth,"—this, observes Emerson, is the fundamental law of criticism. And is it not apparent that all man's efforts to interpret the universe are at once vain and inexplicable, unless it be that he himself is of the same spirit which

gave forth the universe and eternally gives forth? The fact that man doth philosophize and must is the blazing evidence of his oneness with the Mind by which the worlds are and were created.

And that which is implied by speculation is also vouched by freedom and the infinite transformation wrought by Will. "The world," says Emerson, "yields itself passive to the educated Will. It is not fixed, but fluid and obedient." "From the child's successive possession of his several senses up to the hour when he saith, 'Thy will be done!' he is learning the secret, that he can reduce under his will, not only particular events, but great classes, nay, the whole series of events, and so conform all facts to his character." Every jet of chaos which threatens to exterminate us, he says in the essay on "Fate," is convertible by intellect into wholesome force. Fate is unpenetrated cause. The water drowns ship and sailor, like a grain of dust; but learn to swim, trim your bark, and the wave which drowned it will be cloven by it and carry it. Right drainage destroys typhus. Steam, till the other day, was the devil which we dreaded; but Worcester, Watt, and Fulton bethought themselves that, where was power, was not devil, but was God. Could he lift pots and roofs so handily? he was the workman they were in search of. The opinion of the million was the terror of the world, and it was attempted to hold it down with a layer of soldiers, over that a layer of lords, and a king on the top. But the Fultons and Watts of politics, by satisfying the million, have made of this terror the most harmless and energetic form of a State. "Every solid in the universe is ready to become fluid on the approach of the mind, and the power to flux it is the measure of the mind. . . . One after another, man's victorious thought comes up with and reduces all things, until the world becomes, at last, only a realized will—the double of the man."

"Intellect annuls Fate," says Emerson. "So far as a man thinks, he is free." I see not how one can well see this doctrine of freedom challenged without jealousy, so fundamental does it appear to me. I read of late an article by one of our thoughtful men, in opposition to the principle that the freedom of the will is the corner-stone of ethics; and I marvelled at the argument,

—to which Grote, Voltaire, and Mr. John Fiske were made to contribute. “The *free agent*” was grotesquely defined, in the language of Grote, as “one who can neither feel himself accountable nor be rendered accountable.” “If the volition of agents be not influenced by motives,” it was said,—certainly no one would ever dream of denying so trivial a truism,—“the whole machinery of law becomes unavailing, and punishment a purposeless infliction of pain.” “If, when a robber is executed,” says Voltaire, in strange idiom, “his accomplice, who *sees* him suffer, has the liberty of not being frightened at the punishment, he will go from the foot of the scaffold to assassinate on the high-road; if, struck with horror, he experiences an insurmountable terror, the punishment of his companion will become useful to him, and moreover prove to society that his will is not free.” “Substitute for the unmeaning phrase, ‘freedom of the will,’ ” says Mr. Fiske, according to this writer, “the accurate phrase, ‘lawlessness of volition,’ and the theory already looks less plausible.” “To write history,”—so Mr. Fiske is also quoted here,—“on any method furnished by the free-will doctrine would be utterly impossible.”

I know not in what connection and with what saving explanations Mr. Fiske may have said this.¹ I think he could never have said it at all, save in his propadeutic period. I certainly commend to whoever is inclined to look upon the reasoning of Buckle as “equally legitimate and conclusive with that of Darwin,” Mr. Fiske’s own essays upon Buckle’s fallacies; and very sure I am that the history of America which he promises can be based on no other doctrine than that of freedom. “Does the reading of history make us fatalists?” says Emerson. “What courage does not the opposite opinion show! A little whim of will to be free gallantly contending against the universe of chemistry.”

Substitute the accurate term *lawlessness* for *freedom*, it is urged, and the theory already looks less plausible. Substitute *lawlessness* for *freedom*! Substitute Preston Brooks for

¹ The expression, which seems to me an unfortunate one, occurs, as I learn since the above was in type, in Mr. Fiske’s “Cosmic Philosophy,” vol. ii. chap. xvii. But the expression gives no adequate idea of the purpose of the chapter, which is to show the lawful power of motives.

Sumner, substitute Alcibiades for Plato, and Judas for St. John! The confusion is a monstrous one. Is the lawless State the free State,—or the State where law is perfect and supreme? Who is the free citizen? Is it Gladstone, whose speech on each month's problem we confidently prophesy, by knowledge of the self-determined law of his mind,—or is it the Jingo of the music-hall, whose whim next week or the week after is quite incalculable? Is it the obedient citizen, or the capricious and he who does not feel himself accountable? As I understand it, this is the one who finds himself in jail.

Voltaire's identification of freedom with caprice, with insulation from influences, from motives and causality, is a foolish and trivial thinking. People may think as they will of Carlyle's judgment, that "there is not one great thought in all Voltaire's six-and-thirty quartos;" but few who will not own that he was "positively shallow" upon occasion, when they find him adducing the fact that the sight of a hanging frightens a would-be murderer, as a proof that the will is not free! "Will, pure and perceiving," says Emerson, "is not wilfulness. When a man, through stubbornness, insists to do this or that, something absurd or whimsical, only because he will, he is weak; he blows with his lips against the tempest." "If we thought men were free in the sense that in a single exception one fantastical will could prevail over the law of things, it were all one as if a child's hand could pull down the sun." "Let us build altars," he said, "to the Beautiful Necessity, which rudely or softly educates man to the perception that there are no contingencies—that Law rules throughout existence." "If we give it the high sense in which the poets use it, even thought itself is not above Fate: that, too, must act according to eternal laws, and all that is wilful and fantastic in it is in opposition to its fundamental essence."

Man may choose as he will, but he chooses the wrong at his peril, his error or his sin in no wise earning deference from the moral nature of things; and the problem set to man is to gladly will the universal, not to do somehow that which gravitation and the Ought command,—that he must do somehow, or be ground up,—but to do it voluntarily, in the perceiving of its infallible excellence and oneness with the deep base of the

life. "Thank God," said Lessing—he who said, in its place, that deep correlative word, "*Kein Mensch muss müssen*"— "that I *must, must do the right*." Herein only is freedom—in obedience, in harmony with right. "The law of liberty," says St. Paul. "Our wills are ours," says Tennyson, in his line, "*to make them thine*." "The last lesson in life," says Emerson, in "Worship," using almost Spinoza's word, "is a voluntary obedience, a necessitated freedom." "Morals," he says, "is the direction of the will on universal ends." But "morals implies freedom and will. The will constitutes the man."

Morals implies freedom, he says,—as the immediate consciousness and common-sense of men have said from the beginning, and the profoundest philosophy from Plato and Aristotle on to Emerson. We need no Kant to prove it by formulas of metaphysics. What else mean the words *responsible, blame, retribution, indignation*? Why else this difference in kind between my feeling toward this stinging viper and that toward this selfish coward or false friend? Aristotle's simple old argument, in his "Ethics," for the free will and consequent responsibility of man, by appeal (1) to our own consciousness, and (2) to the fact that in society we treat one another as free agents, and must do it, whatever our theory, has never been laid nor transcended yet, and is not likely to be in a hurry.

But I know of no profounder word upon this old knot of freedom and necessity than that of Emerson, in the essay on "Fate." I think of no word so profound as this, no system of ethics so great,—for system of ethics it is *in posse*,—save, in somewhat, that of Kant's great *Kritik*.

Nature is no sentimentalist, to Emerson. He believes in no "pistareen Providence, which, whenever the good man wants a dinner, makes that somebody shall knock at his door and leave a half-dollar." It is of no use, he says, to "dress up that terrific benefactor in the clean shirt and white neckcloth of a student in divinity." The world "will not mind drowning a man or woman."

Nor is there any underrating of external influence or circumstance by Emerson. "Every spirit makes its house," he says; "but afterwards the house confines the spirit." "How

shall a man escape from his ancestors?" "At the corner of the street, you read the possibility of each passenger, in the facial angle." "A crudity in the blood will appear in the argument; a hump in the shoulder will appear in the speech and handiwork." You cannot make a poet of "that little fatty face, pig-eye, and squat form." "The election often goes, probably, by avoirdupois weight—and it might be speedier to take the parties to the hayscales than to the ballot-box." Circumstance, nature, the thick skull, is half. "The book of Nature is the book of Fate." Whatever limits us we call Fate—and limitation runs through entire nature. Fate is organization tyrannizing over character.

"But if Fate is so prevailing, man also," says Emerson, "is part of it, and can confront fate with fate. History is the action and reaction of these two—Nature and Thought. Man cannot blink the free will. To hazard the contradiction, freedom is necessary. If you please to plant yourself on the side of Fate, and say, Fate is all; then we say, a part of Fate is the freedom of man. Intellect annuls Fate. So far as a man thinks he is free. He who sees through the design, presides over it, and must will that which must be. If the wall remain adamant, it accuses the want of thought. The one serious and formidable thing in nature is a will." "'Tis written on the gate of heaven," he quotes from Persian Hafiz, "'Woe unto him who suffers himself to be betrayed by Fate!'"

"It is wholesome to man to look not at Fate," Emerson says, "but the other way: the practical view is the other." This takes us back to that place in "Nature" where he declared the advantage of the ideal theory to be that it presents the world in precisely that view which is most desirable to the mind—the view approved alike by philosophy and by virtue. And it indicates the primary principle of his method of reform,—whether dealing with appetite or crime. We have seen how fully he recognizes the power of environment and circumstance. Environment itself is the creation of thought, and it is ultimately and essentially in the control of thought. It is right and significantly important that we should direct our efforts to the amelioration of circumstance, that so those results which conform to the results of virtue may be facilitated and more constant.

Indeed, if we consider, this fact, that the melioration of circumstance is also in man's power, and is his prescribed task, bears the same witness to his freedom as his triumph over circumstance. It is the triumph over circumstance—only in broader circle, and vicarious in somewhat. But this triumph over circumstance in every circle is the command of virtue, and the teaching of its necessity and possibility is the cardinal ethical truth of the ideal theory. Above and below and within those seven ancestors wrapped up in thy skin is that new thing which thou art,—and this, and not chiefly those, is responsible for thy depravity and fall. Thou art the doer of this wrong, and not thy father rather,—and deviltry is not all one with dyspepsia. It were not possible for Emerson to write Carlyle's essay on the Model Prison,—but in his vocabulary also *scamp* was not yet an obsolete word nor synonym of invalid.

Amidst many rash and mischievous "philosophies of evolution," it is wholesome to recur to these first principles,—profitable and very necessary at any rate, to consider seriously what is first and what circumferential second. No man in this time, to my thinking, has approached the problem of the world and the soul with mind so capacious and so veracious as our own great thinker—none has spoken a word so proportionate, so rational, and so commanding. The American, at least, has not excuse who, possessed of Emerson's inspired and sacred page, hastens to hang up his logic on psychology and choke intellect and freedom in mechanism, lawlessness, or fate.

EDWIN D. MEAD.

LORD LYTTON.

THE publication of a biography of Lord Lytton by his son arouses new interest in a man of letters whose career is intimately interwoven with the literary history of the nineteenth century, but whose life and character, until the present time, have never been placed adequately before the world. Beginning his work when the novels of Jane Austen and Fenimore Cooper were still new, when Sir Walter Scott and Lord Byron stood at the head of living English writers, when Miss Edgeworth had not published "Helen," nor Miss Ferrier "Destiny," he survived Charlotte Brontë, Hawthorne, Dickens, and Thackeray, and at his death left in the field Trollope, Charles Reade, Lord Beaconsfield, and George Eliot, all of whom had been his competitors for popular favor. In his time the taste of the public went through many changes; but so versatile were his powers that he was able to satisfy the new demands as they arose and to leave behind him a list of novels so widely differing in subject and style that critics refused to believe that all had come from the same hand. Nor is it wholly on works of fiction that his fame must rest. As a dramatist he has no equal in the nineteenth century; he was an accomplished historian and essayist; while in no sense a remarkable poet, he had in a high degree the poetic temperament. Possessing none of the physical requirements of an orator—his voice harsh, his manner hesitating and awkward—he yet succeeded in holding the attention of the House of Commons and in influencing the course of legislation by clear and brilliant argument. He was, moreover, an excellent man of business both in public and private affairs. Of the many paths of activity on which Lytton entered, he met triumph in several and

failure in none. His works are read with delight wherever the English language is spoken, and translations have made them known in Italy, Germany, and France for fifty years. Of this man much has been written in praise and even more in detraction, but the time has come when a just estimate may be made of the degree in which either was deserved, and of the place posterity may accord him in the particular department of literature where his labors were greatest and most successful.

Edward Bulwer was born in 1803 at Knebworth, a country-seat which his mother had inherited as the heiress of the Lytton family. His father was General Bulwer, a distinguished officer, who married late in life and died while Edward and his two elder brothers were still in their boyhood. The future Lord Lytton was exceedingly precocious, and, being left to the care of an admiring, indulgent mother, he developed early a self-conceit which became responsible for most of the enmity which afterwards accompanied him. His boyish letters from school, where he was found very difficult to manage, were a strange mixture of childishness and affected maturity. At the age of fifteen he had written a number of poems, among them an *Ode to a Poker* in imitation of Milton's "Allegro," which were published in a volume in 1820. About this time the venerable Dr. Parr wrote the boy a number of letters containing flattery enough to have turned a much older head, and Edward Bulwer had not gone to college before he had acquired a very high idea of his own genius, and had passed through an affair of the heart from which he never fully recovered. At the age of sixteen an abscess appeared in his ear which afflicted him throughout his life and at intervals brought on attacks of excruciating pain. His university career was not distinguished otherwise than by the attainment of a prize for a poem on "Sculpture;" but at this period he applied himself to the study of general literature with a devotion which has left plainly marked traces on his own works. At the age of twenty-one he had made an elaborate plan for a "History of the British Public;" he had acquired laboriously a good prose style, he had studied novel-writing as an art, and had made a good reputation at the Cambridge debating club, where both Praed and Macaulay were among his applauding audience. With his love of books and of self-culti-

vation was combined a spirit of adventure which led him to undertake the solitary pedestrian tours of which so many reminiscences are to be found in his novels. On leaving the university Lytton went abroad, and like his hero, Henry Pelham, plunged into the whirl of Parisian gayety. He returned to England in 1822, full of ambition and confidence. At that time Europe was still full of the martial ardor kindled by the downfall of Napoleon; the greatest reputations of public men were made as soldiers or as statesmen in time of war; the poets and novelists were writing of martial heroes. Under such influences Lytton determined to enter the army. But before he could carry out this intention he met Rosina Wheeler, his future wife, and the opposition of Mrs. Bulwer Lytton to the match made it necessary for him to seek in literature the means of subsistence which he had hitherto received from his mother. With his marriage in 1827 his allowance came to an end, and his professional labors were begun, as they generally are, from necessity. Under the pressure of pecuniary needs, Lytton produced in the ten years following his marriage twelve novels, including "Pelham," "Disowned," "Paul Clifford," "Eugene Aram," and "The Last Days of Pompeii," the work entitled "England and the English," three volumes of the "History of Athens," a number of poems and reviews, besides attending to political duties of various kinds. From 1831 to 1841 he was a member of Parliament, and yet worked so assiduously as to produce several more novels in addition to plays and speeches. His political career, without being brilliant, was highly creditable. Always the advocate of reforms, he was among the first to urge the emancipation of West Indian slaves and the principle of international copyright. In 1838 Bulwer was made a baronet, and in 1843, when he had published about fourteen novels and several plays, he succeeded to the Lytton estates of Knebworth and was relieved of all necessity for money-making. But the industry of his life suffered no abatement. About this time the celebrated plays "Money" and "Richelieu" increased his fame as a dramatist already made by "The Lady of Lyons." After succeeding to his estates he wrote no less than nine novels, including the famous "Caxton" series and "Kenelm Chillingly." In 1856 he was made Lord

Rector of the University of Glasgow. Ten years later he was raised to the peerage as Baron Lytton. He received in addition to his other honors the degree of LL.D. from Cambridge and that of D.C.L. from Oxford; and he retained sufficient vitality up to the time of his death in 1873 to make an entirely new and anonymous reputation with the "Coming Race."

The most prominent feature of Lord Lytton's character was his industry. It was shown before pecuniary wants made it imperative, and it continued long after the necessity had disappeared. Its fruits are shown not only in the literary and political work known to the public, but in the great number of unpublished manuscripts and commonplace-books which he left behind him. This untiring industry, together with great mental fertility and brilliancy, made up the elements of Lytton's genius. A well-known historian has thought it conclusively proved that Lord Lytton was not a man of genius by the fact that he was able to change his style so entirely to suit the taste of the day. But this is paramount to saying that versatility is incompatible with genius; that when a man of genius excels in more than one line of action, he ceases to be such. We are much more inclined to accept the definition of genius as a capacity for taking pains. Lord Lytton has expressed himself on this point very convincingly: "I have an intense belief in the generative virtue of labor; and I look upon genius as concentration of thought upon one point at a time. I do not believe that true genius is confined in its sphere of operation. It is only because few men of genius concentrate as much labor of thought on one point as on another that they are not equally successful in every intellectual effort." Lytton's industry was inspired by a deep affection for books and by an overpowering love of fame. The position of an unknown scholar like his grandfather could never have satisfied him. He longed to be before the world, *monstrarri digito*, to have his name on other men's lips. Desire for fame, added to his intense self-consciousness, was the cause of that affectation which made him pose before the world in a character foreign to his own. He believed that the public liked to think of him, not as an ordinary man, but as high-flown and romantic as his fictitious heroes. It was such a feeling as this that made him, in middle life, write thus ab-

surdly of his childhood: "But at least I resembled Homer in one respect. I did not find it necessary to write in order to compose; for before the gross materialism of pot-hooks, mine airy soul had hovered over Hippocrene, strayed through Corycian caverns, and inhaled the fragrance of the blossoms that fell from the garlands of the vine." The same affectation made him always conceal his true age and induced him, in his autobiography, where he carefully chronicled the day of the month and the hour of the day in which he was born, to stigmatize as "curious impertinents" any persons who might desire to know the year of his birth. This unfortunate characteristic was at the bottom of the prolonged and concerted attempt to write Lytton down and at the same time made him extremely sensitive to criticism at a period when the critic's art was at the lowest ebb. He suffered acutely from such ribald and brutal attacks as appeared in *Fraser's Magazine*; but he was generous enough not only to forgive the wretched malice of his enemies, but to extend pecuniary assistance to such of them as applied for it in later years. Among his detractors was the young Thackeray, who afterwards placed his repentance on record. Lytton was afflicted all his life with a constitutional irritability. During his early married life this was so aggravated by the pressure of work under which he struggled and by the conduct of his wife in leaving the petty, domestic cares of the household to be attended to by her overburdened husband, that he was described by a friend as resembling a man who had been flayed and was sore all over. Lytton's affection for his mother, his patience and respect under her displeasure, are qualities not to be overlooked. The story of his unhappy marriage need not here be reviewed. Rosina Wheeler was beautiful and clever, but she abhorred and neglected her household duties, impeding instead of assisting her husband. The separation of the unhappy couple resulted from absolute incompatibility of character. There only remains to be said that while Lord Lytton preserved in regard to his wife a dignified silence, she acted toward him after the separation in an outrageous manner: writing a wretched novel called "Cheveley" in which she maligned him most venomously, appearing in person at the polls to obstruct his return to Parliament, and pursuing him always

with unwomanly violence. Lord Lytton's character presents many admirable traits. His faults were chiefly such as only injure a man's self. None was less jealous of others' fame nor more ready to applaud a rival. He was great in his untiring labor, great in the loftiness of his aims, in the purity of his motives, and in the amount of his accomplishment.

The most striking impression received by a glance over the list of Lytton's works relates to the variety of their character. Novels of Life and Manners, of Criminal Tragedy, of Philosophy, of Supernatural Fancy, of History, succeed each other as the whim of the author or the demand of the public seems to have required. Lytton grew up with the nineteenth century, himself a most characteristic production of it, sharing in its ever-changing tastes and catering to them. In this capacity to vary the theme and to apply the art of fictitious composition to very different objects consists Lord Lytton's chief claim to a foremost place among the great English novelists. Jane Austen, Scott, Thackeray, Dickens, George Eliot, however any of these may excel him in certain respects, none of them has shown the same versatility. They all chose a well-defined field of action within the limits of which they were contented to be master. But Lytton invaded, successfully, every field. His novels succeeded each other indiscriminately, but it will be most convenient to examine them in groups.

The world in which Edward Bulwer grew up to manhood was greatly occupied with romantic ideas. The supernatural glare of the Radcliffe school had been dimmed, if not extinguished, by the practical common-sense of Miss Austen; but Scott and Byron were the ruling literary influences of the day, and society was penetrated by an affectation of sentiment and expression which left deep traces on what may be called Lytton's first series of novels of life and manners. This includes "Falkland," "Pelham," "The Disowned," "Godolphin," "Ernest Maltravers," and "Night and Morning," and differs from the later Caxton series as the product of two separate authors. "Falkland" may be dismissed as the work of a man of twenty-two, condemned by his maturer judgment and withdrawn from circulation. With "Henry Pelham," Lytton at once attained fame. Unnoticed at first, the book soon made a genuine

sensation in London and became an authority in Paris on the customs of English society. It had, indeed, many qualifications for popularity. The plot was extremely interesting and unfolded with uncommon art, the characters lifelike and various, the dialogue brilliant. But the quality which made the most potent factor of its success, and which is most important to Lytton's reputation, was originality. No trace is to be found of the influence of Scott. The book shared far less in the prevailing literary characteristics of the time than the works which immediately followed it. Into this volume the young Bulwer compressed all the impressions of life, the brilliancy, the aspirations which had accumulated in his own mind. It was the portrait of a young man possessing the character and qualities which would fit him for future greatness, but which, as yet, in the heydey of youth, under the fascination of the first view of a life seeming all rose-colored, were lavished on the frivolities of fashion. The affectations of Pelham did away with those of his opposite, the gloomy, guilty Byronic hero who then predominated in imaginative writing. Before Pelham conquered the world by genius, by exertion, he wished to charm it by brilliant eccentricity; to be the darling of fashion before he became the admiration of the Senate. While in the character of Pelham, Lytton was thinking perhaps not exactly of himself but of what he liked to imagine himself, many other characters, as Vincent, Guloseton, Clutterbuck, and even Job Jonson were taken in part from originals known to the author. The habit of weaving in personal experiences was constant with Lytton. Many passages in his novels are autobiographical. But while this method added intensity to his conceptions, it did not greatly increase their reality. Some of the Bulwerian spirit was infused into every character; Guloseton or Job Jonson spoke, not exactly as they would really have spoken, but as the author himself would have done in their place with their characters to keep up. It was as a novel of fashionable life that "Pelham" became famous, but one of its chief merits was that it gave an equally striking view of the extreme end of the social scale. The vulgar villain Thornton is as good in his way as the polished Vincent; the Parisian *salon* is not more vividly described than the London slums.

With the publication of "The Disowned," Lytton, already burdened with cares, his faculties strained by compulsory production, acknowledged that the spirit of creation within him was not what it had been. The novels that immediately followed "Pelham" show a lack of the freshness so charming in that book; the author had evidently lost some of his originality and had succumbed to the influence of the romantic tendencies of the time. In exceptional cases an improvement is manifest. Savile in "Godolphin," who has become a type of the social philosopher as Henry Pelham has of the dandy, is a distinct advance on Guloseton. But the faults of the earlier novels of life and manners come out strongly in "The Disowned," which, even more than the others, was an experiment in the art of fictitious composition while the author was not yet conscious of where his best powers lay. At the time of the composition of this book Lytton had been studying metaphysics, and with his mind full of the subject he resolved to write a novel of which the "development of the abstract" should be the principal object. Thus the characters of "The Disowned" are abstractions rather than real persons: Talbot, representing Vanity; Lord Borodaile, Pride; Warner, Ambition; King Cole, the love of liberty from the point of view of the poet; Wolff, the love of liberty from that of the politician. And the whole book shares in the unreal impression of the characters. In these earlier novels the conversations are full of carefully-prepared philosophizing and flowing phrases. People speak polished essays. A theatrical glare is over everything. When dealing with common people, and especially when seeking to be humorous, Lytton fell into what had been Scott's fault of making one stock phrase answer for the conversation of a character, as in the case of the wearisome Morris Brown. His wealth of imagination tempted him into introducing characters having a doubtful connection with the story in order to get an opportunity to bring in descriptions of a roving gypsy life, or enthusiastic comments on scenery, or quotations from the ancients and moderns. His invention was let loose and allowed to elaborate wherever it chose instead of being confined to the main points. Many incidents shocked probability; estates were won and lost too easily; the changes from wealth

to poverty were too sudden. Notwithstanding their evident faults, these productions contained a great deal to interest the generation to which they were first introduced. They were romantic, unreal, and high-flown, but such characteristics were rather to the public taste fifty years ago. The fulness of their matter and the practical skill of their literary workmanship contained the promise of better things to come.

The extraordinary success of Sir Walter Scott called Lytton's attention to the historical romance. But while the great body of writers who attempted to follow in Scott's footsteps were capable only of imitation, Lord Lytton entered the field with original ideas and produced some specimens of historical fiction which deserve to rank among the very best of their kind in English literature. Scott looked upon history as a rich fund from which to draw the materials for romantic composition. Historical accuracy was of small consequence to him compared with romantic interest. But Lytton adopted the contrary method of using romance to illumine history. Accuracy was his first aim, and fiction was employed to give life and interest to the authentic tale. Thus we naturally find Scott the better romancer, Lytton the better historian. Immediately after the publication of "The Disowned" the first essay in this department was made with "Devereux." The pressure of necessity under which the author was then working, and the false theatrical manner which then marred his composition, told fatally against the book. Neither plot nor incidents were successfully managed. Such characters as Steele, Addison, Pope, Swift, and Bolingbroke were unnatural; the phrases manufactured for them were affected. It was left for Thackeray, more than twenty years later, to do justice to the time of Queen Anne. But when Lytton was travelling in Italy to recuperate from the effects of overwork, he became interested in the history of Pompeii and in the career of the great Rienzi. From his studies in these subjects resulted the two splendid works which established his reputation as an historical novelist. A grander and a more difficult theme could hardly have been chosen than the last days of the fated city. To rebuild these ruins, to re-people them with human beings, was a task from which the most confident might have recoiled. But Lytton brought vividly to

mind the houses and streets as they had been; the gay luxury of the inhabitants, the mysterious rites of the priesthood, and the bloody scenes of the amphitheatre. In the loves and occupations of Arbaces, of Glaucus, of Ione and Nydia, he reproduced the brilliant life of the city. And the final catastrophe, with its awful combination of horrors, is more completely portrayed in his account than in any other. It has been objected to this work that any attempt thus to reconstruct a long-forgotten state of society must have at best a cold and lifeless result. The criticism is by no means devoid of force, but only heightens the author's triumph in the great popularity of the work. It has become a sort of text-book on Pompeii, and has diffused information among many thousands who otherwise would have remained totally ignorant of the subject. At the present time, fifty years after its publication, every town library has its well-thumbed copy of the "Last Days of Pompeii."

Lytton's labors in the department of historical fiction reached their culmination in "Rienzi." This work is not only delightful as a romance, as a fascinating tale of ambition and love placed amid scenes deeply stirring to the imagination; it is, besides, a contribution to history of uncommon value. Previously to the publication of "Rienzi," justice had never been done to the memory of the great Tribune, and even the Italians found in this romance the first correct view of their countryman. A legitimate criticism may be made concerning "Rienzi" to the effect that it contains too much historical material: that the fortunes of persons are deserted too often for the teachings and philosophy of history. But it is easy to forgive this artistic defect in view of the importance of the lessons to be learned from the Tribune's career and the wisdom with which the causes of great political events are traced. The main incidents of Rienzi's life were supplied ready made, but Lytton's invention appears admirably in the management of the minor characters. The adventures of Walter de Montreal are very skillfully interwoven; the loves of Adrian and Irene keep up an undercurrent of tender romance which relieves the more sombre features of the narrative. Over all is cast the glow and warmth of an Italian atmosphere. Lytton's choice of historical subjects was always made with great regard to dramatic in-

terest. He wisely preferred such periods as contained a definite conclusion of some celebrated series of events. With "The Last Days of Pompeii" and "The Last of the Tribunes" he was pre-eminently successful. In "The Last of the Barons" he gave a good view of the time when feudalism was succumbing under the successive blows of knowledge and civilization. But "Harold, the Last of the Saxon Kings," written to describe the causes which made the Norman conquest possible, is entirely lacking in any sort of truth to nature. It contains many beautiful passages, but its dialogue is stilted to a degree sometimes bordering on absurdity.

There are always many persons interested in supernatural topics, and the number of these has been largely increased of late years by the progress of spiritualism, mesmerism, and kindred investigations. Lord Lytton's mind was strongly attracted to such studies; his imagination seized upon them as choice food; his thirst for knowledge was only whetted by their mystery. With the supernatural tales of "Zanoni," "A Strange Story," and "The Coming Race," he entered an entirely new field of labor and added to his already large literary constituency yet another new element. There have been an abundance of fictions, ancient and modern, dealing with the prolongation of life. All of these, however, have represented a compact with powers of evil for the purpose of worldly pleasure. But Lytton's heroes, Zanoni and Mejnour, attain immortality by renouncing the flesh and the devil and by purifying themselves up to the point of etherealization. In "Zanoni" it is represented that there are certain properties of plants and metals which give perpetual life. But these secrets are known only to denizens of the air, and the initiation to their brotherhood is difficult and painful. Only Zanoni and Mejnour have passed through it successfully. Of these two characters, Mejnour has become immortal in old age, his passions and affections dead; he lives on, the incarnation of intellect, a thinking, calm, benevolent, stainless being. But with Zanoni the case is very different. Beginning his immortality in early life, he enjoys immortal youth with the capacity of youth for affection. He falls in love with a mortal, thus alloying his ethereal condition, and he gives up his life for the woman because he cannot survive love. The

obvious moral is that the mind can attain perpetual life, but the passions cannot. In the very beautiful romance of "Zanoni" the immortality attained by purity and self-denial is employed for objects entirely pure. But in "The Strange Story" immortality is sought from low motives and seized by treachery and murder. Hence the hero, Margrave, has a brilliant and captivating appearance, but his nature is cruel and sordid, his enjoyment merely sensual.

Lytton's desire to investigate life and character under as many aspects as possible naturally led him to study the morbid workings of the mind in what may be called his novels of Crime and Tragedy. Of these, "Paul Clifford" and "Eugene Aram" belong to the early period of his literary life, and are marked by the faults prominent at that time. "Lucretia" was published some years afterward, but before the author's genius had attained its best development. "Paul Clifford," published in 1830, was written to advocate much-needed reforms in the treatment of criminals. Lytton's favorite object, to trace the effect of education on character, is the basis of the book. To readers of the present day there is little interest in "Eugene Aram." The aim is to display the defect, in an otherwise noble and enlightened mind, which could permit the great scholar to be seduced into the commission of a murder. But the book is too long in proportion to the amount of material involved; the chief character is so full of contradictions as to become vague; the faults of Lytton's early productions, their straining after effect and theatrical unreality, are always prominent. "Lucretia," the most important of this series, published in 1846, is a horrible study of crime. The mind of Lucretia, first corrupted by treachery, becomes more and more degraded by the desire of revenge, until it reaches total moral perversion under the influence of the diabolical Dalibard and Varney. The number and the horror of the crimes described are so great, the callousness of the criminals so revolting, that the public received the work with unqualified disapproval. This feeling was founded on grounds of both taste and morality. Against crimes connected with passion the reader feels himself least secure, and hence such crimes are not without interest to him. But no one thinks that homicide, especially for purposes of gain, can possibly be among

his temptations. Lytton took up these subjects with a desire to study crime in the abstract in connection with tragedy. But, much to his astonishment, his readers declined to go with him. In "*Lucretia*" they saw, not a legitimate and careful study of the morbid workings of the mind, but a revolting association with criminals. They missed the author's point, but they had a right to be uninterested in discovering it. On the ground of taste the reading public was correct enough in denouncing "*Lucretia*," but on that of morality it was entirely wrong. In judging the moral effect and responsibility of an author we must follow certain obvious rules. So long as crime exists it may be written of. But it must be written of truthfully, as crime, never excused, never palliated, never raised to the dignity of heroism. It must never be of a nature to allure. If unattractive it will instil repugnance, not cause imitation. But to this end only some kinds of evil-doing can be legitimately treated. Murder, robbery, treachery, when shown in their true colors, will teach moral lessons only. But licentiousness, even when stamped as guilt and followed by punishment, still finds an ally in the nature of men, and may corrupt when the intention is to reform. Thus Richardson's "*Pamela*," presenting the most virtuous views and written with a confessedly moral object, contains many scenes which inflame the passions and tend to familiarize the reader with the very vice which the book sought to uproot. But Lytton's novels deal with crimes naturally repulsive to humanity, and leave upon the mind a yet stronger detestation of evil. Lytton was indignant at the charges of immorality directed against "*Lucretia*," and made no further efforts in the department of fiction to which that novel belonged.

It is singular that while the critics and a great part of the reading public were assailing Lytton so violently for his choice of criminal characters, he was preparing for the press a novel so entirely different both as to matter and manner. "*The Caxtons*" followed "*Lucretia*," and was intended as a pendant to that work. Both books had for their object Lytton's favorite theme, the effect of education on character. "*Lucretia*," of course, depicted the evil effect of early associations and waywardness; "*The Caxtons*" contrasted with that dark picture

the purity and rectitude of a family life in which affection and unselfishness are the leading characteristics. "The Caxtons" was published anonymously in 1850, exciting a great deal of curiosity and interest. The announcement of its authorship was received with surprise and incredulity. Surprise was natural, for the book not only contrasted so strongly with "Lucretia," but also it differed radically from anything the public expected from its author. There was no trace of the unreal, theatrical manner of his earlier novels of life and manners. While a slightly romantic atmosphere hung about the volume, there was no straining after effect, no stilted conversation, no affectations of sentiment or diction. "The Caxtons" had an out-of-door freshness about it, an abundance of sunshine, a simple chivalry and natural, domestic tone which inclined the world to believe that a wholly new hand was at work. It was with this book that Lytton began his last and by all means his best series of fictions. It is not the least remarkable feature of his career that at the age of forty-seven, when he had already been actively producing for twenty-four years, he should have preserved enough power and freshness to make a new, anonymous reputation. These qualities were not only retained; they were considerably increased. "The Caxtons" is a family picture, showing no more than the domestic relations of a few simple people, but showing them so delicately and sympathetically that the reader is charmed. Austin Caxton, the amiable bookworm, and his brother Roland, the soldierly gentleman, are better than anything the author had yet done except Henry Pelham. Lytton was indebted to "Tristram Shandy" for the main plan of the book. The characters correspond exactly: Austin Caxton to Walter Shandy; Uncle Roland to Uncle Toby; Mr. Squills to Dr. Slap; Bolt to Trim. Both works open in the same way with the birth of the narrator, and in both there is the same absurd accident about naming the child. Many points of resemblance may be enumerated, but still it is untrue to say that "The Caxtons" is a plagiarism on the masterpiece of that most unblushing of all plagiarists, Laurence Sterne. That the work was suggested by "Tristram Shandy" there can be no doubt, but there the obligation rests. "My Novel" was still a step in advance. It seemed as if Lytton had always

something good in reserve. The book is perhaps too long, much longer than the public taste now requires, and its length is largely caused by the conversations of the Caxton family which are sandwiched in here and there, somewhat impeding the progress of the story. "My Novel" has the advantage over "The Caxtons" of a very interesting plot, and it contains the characters of Dr. Riccabocca, Parson Dale, Audley Egerton, and Squire Hazeldean, who retain a strong hold on popular affection. The villain, Randal Leslie, like so many of this writer's villains, is after too ready-made a pattern. There is no hope for him; the author has made up his mind, and the young man has no alternative but to abandon the paths of virtue for ever in the interest of the narrative. All of Lytton's works have a serious object. That of "My Novel" is the discussion of the question whether knowledge is power. This work alone would entitle its author to a place among the first of English novelists. Lytton here touched his highest point; but there was no falling off in "What will he Do with it?" and "Kenelm Chillingly." All the information concerning men and things which had been accumulated during a life uncommonly full was here moulded into form by a hand which long experience and careful training had made consummately skilful. In these novels life was treated in its broadest sense. The reader's attention was no longer occupied with the accidental circumstances affecting one individual, but with those broad tendencies which influence a whole people. Man was studied, not isolated beings. We have said that an air of romance hung about these later works. It is not that single characters or incidents were romantic, but rather that the material realism to which we are now accustomed in literature was wholly absent. Love was not yet calculating the dollars and cents. The weak and erring were not hurried by the inexorable fate of their unchangeable natures to an ignominious end. Virtue was still triumphant, vice still punished. The novelist was a creator, not yet merely an analyst. The author of "Kenelm Chillingly" was a poet, studying life and its problems, but mindful of heaven while walking on earth. There is no better way to appreciate the great mental progress made by Lord Lytton than to compare the two extremes of his work, "Henry Pelham" and "Kenelm

Chillingly." The young, exuberant Pelham saw in the world but a series of obstacles which his strength and wit could easily overcome. It was but a shallow world, to be charmed into favor at first by the graces and to be reduced at last, when folly wearied, by the exertion of will and intelligence. To him, as to all Lytton's early heroes, "there is no such word as fail." Success was a god. But to Kenelm Chillingly life was an inexplicable, an awful problem before which human intelligence stood in doubt. There was a consciousness of duties and responsibilities, but a terrible ignorance of their nature. What had been facts and articles of faith to Pelham, on which he could form a theory of life, were now uncertain or denied. Amidst the growing materialism of the time what place had religion, art, or poetry? These things were of no use. The young man entering life, who had not bread to earn, was without a reason for existence. What should he do? Why should he do anything? Why, like Pelham, should he seek success when success meant the attainment of an object of doubtful value? The times had changed indeed; old standards had been swept away and the new were yet indistinct. Kenelm Chillingly might look longingly out on the world for some worthy aim, for some career in which his own material interest was not the only end. But after all nothing remained but to acknowledge lofty aspiration to be vain, and the commonplace treadmill of life the only pursuit in which disappointment was not the sure result.

Versatility was the distinctive quality pervading the literary career of Lord Lytton. And his versatility was never the result of caprice; he cultivated each department of literature with all the care of which he was capable, aiming at perfection in everything. In far greater degree than is commonly the case with novelists he studied fictitious composition as an art. The plots and construction of his novels were elaborated with the utmost pains. "Pelham," "Night and Morning," and "My Novel" were the most successful in this respect. The unity of aim which he generally attained resulted from the distinctness with which his subjects and objects were outlined in his mind. His were essentially novels of purpose; each one had its well-defined principle to urge, commonly stated at

length in the preface. His favorite subject was the influence of early education and associations on subsequent conduct. It was perhaps on account of the prominence of purpose in Lytton's novels that the characters were often indistinct, if not unreal. Too frequently they represented principles rather than individuals. The author had not the capacity for losing his own identity in that of an imaginary person. Some trace of himself remained on nearly every character he described. He saw his men and women plainly enough, but he looked at them through a veil of fancy. For this reason only a limited number of personages, such as Henry Pelham, Job Jonson, Dr. Riccabocca, Waife, and Kenelm Chillingly, retain a strong hold on the reader's memory. Villains like Crawford, Leslie, Dalibard, and Varney are drawn too much on the theory of total depravity. There is no difficulty in realizing the extent of their wickedness, but we are not sufficiently informed as to how they came to be so bad. With women Lytton was fairly successful: Jemima, Arabella Crane, Nydia, Nina, Irene, Fairy, and Miss Travers are natural and human. Guloseton, the epicure, and Savile, the social philosopher, are typical characters. It was a skilful stroke to have made Kenelm Chillingly so muscular and pugnacious, for otherwise he must have run the risk of being considered a prig. Lytton loved vagabond characters, and sketched them exceedingly well. He shared the pleasure of their wandering life and arranged the effect of their spasmodic appearances in the story with great art. The minstrel in "*Kenelm Chillingly*," who forms the medium for the introduction of the poetic element, is the individual of this description most delightful to the reader and most beloved of the author. But Morris Brown, intended to relieve the sombre features of "*The Disowned*" by amusing eccentricities, is merely tedious. It is indeed with serious, meditative, or tragic subjects that Lytton was most at home; his humor was usually forced. He had a clear, flexible style which adapted itself to the varying requirements of his different forms of composition. In his speeches it is measured and stately, in the earlier novels somewhat florid and over-ornamented, in the Caxton series easy and familiar. His early romantic manner was modified toward the end of his career into a poetic idealism. He never became real-

istic, as the word is now understood, nor was he at any time a thoroughly national writer. In his literary work he depended less on invention than on his store of reading and observation. His career was very remarkable, and his position among contemporary authors unique. He forms a link between the time of Scott and that of George Eliot. For almost fifty years he was prominently before the world as an active, progressive, and brilliant writer. He stands unchallenged at the head of the dramatists of the time, and among the famous group of novelists which the nineteenth century has produced the name of Lord Lytton must always be included.

BAYARD TUCKERMAN.

OUR EXPERIENCE IN TAXING DISTILLED SPIRITS.

THIRD ARTICLE.

WE come next to a consideration of the most interesting and novel phase of this history; namely, the financial results and moral influences which have followed the attempt of the United States to obtain a large revenue through the imposition of high taxes on distilled spirits.

The first tax imposed by Congress after the outbreak of the war, namely, under the act of July 1, 1862, was 20 cents per proof-gallon, or at the rate of fully 100 per cent on the then cost of the article taxed. The revenue derived from the same for the fiscal year ending July 1, 1863, exclusive of the revenue derived from licenses for the manufacture, rectification, and sale of spirits,¹ was \$3,229,941, indicating a production of 16,149,950 gallons, as compared with a production returned under the census of 1860, three years previous, of 90,000,000 gallons.

The tax of 20 cents continued in force until March 7, 1864, when the rate was advanced to 60 cents per gallon. The rev-

¹ In addition to the tax directly imposed on the distilled spirit, the United States from the first imposed a number of other collateral taxes, i.e., license-fees, permits, etc., on the business of producing, refining, and vending of spirits, all of which, altho assessed and collected independently, are included under a general return of aggregate revenue from distilled spirits. Thus the total revenue returned as collected in any one year is always considerably greater than the receipts from the direct tax on the spirit itself. These annual aggregates since the first imposition of the tax have been as follows: 1863, \$5,176,520; 1864, \$30,329,149; 1865, \$18,731,422; 1866, \$33,268,171; 1867, \$33,542,695; 1868, \$18,655,630; 1869, \$45,071,230; 1870, \$55,606,094; 1871, \$46,281,848; 1872, \$49,475,516; 1873, \$82,099,371; 1874, \$49,444,089; 1875, \$52,081,991; 1876, \$56,426,000; 1877, \$57,469,000; 1878, \$50,420,815; 1879, \$52,570,284; 1880, \$61,185,508; 1881, \$67,153,974; 1882, \$69,873,408; 1883, \$74,368,775.

enue derived under these two rates for the fiscal year ending June 30, 1864, was \$28,431,798, and the number of gallons returned as having been assessed was 85,295,391.

On the 1st of July, 1864, the tax on distilled spirits was further raised to \$1.50 per proof-gallon, and by the same act it was further provided that the tax on and after February 1, 1865, should be \$2 per gallon. When Congress reassembled, however, on the succeeding December, the time when the \$2 rate was made to take effect was changed from the 1st of February, 1865, to the preceding 1st of January. The revenue which was collected under these two rates for the fiscal year ending June 30, 1865, was only \$15,995,000. For the fiscal year ending June 30, 1866,—the first full year under the \$2 tax,—the receipts were \$29,198,578 (exclusive of \$283,409 derived from spirits distilled from fruits), the assessment being on 14,599,000 gallons.

With these curious figures before us, let us next inquire somewhat more in detail into the course of events of which they are the exponents. From the very commencement of the war, until its issues became certain, and indeed for a considerable period thereafter, the attention of the Government was so engrossed with current military events, foreign relations, the operations of the Treasury in respect to the most complicated and gigantic system of finance and taxation that the world has ever known, and later with the problems of the reconstruction of the Union, that the efforts made to prevent, detect, and punish frauds in respect to the revenues were almost absolutely of no account. Indeed it may be further alleged with truth that the spirit and working of the revenue statutes were to a very great degree in the direction of the encouragement of fraud and speculation. And while there was also during all these times an immense amount of patriotism on the surface, it rarely with the producing and commercial part of the community struck in so deep as to prevent them from taking prompt advantage of any necessities or neglect of the Government, to benefit their individual and material interests. Thus, going back to the rates of taxation on domestic distilled spirits, it will be found that, after the imposition of the first tax of 20 cents per gallon in July, 1862, the rates were three times changed and largely advanced within the short space of

ten months—namely, March, 1864, from 20 to 60 cents; July, 1864, from 60 cents to \$1.50; and January, 1865, from \$1.50 to \$2 per gallon. There was, moreover, in each case—dating back to the imposition of the first tax—ample premonition to all interested that the tax would be imposed or largely advanced; and, after the enactment of the first tax, a feeling of almost absolute certainty, which experience afterwards confirmed, that Congress, under the influences to which it was subjected, would never make the advance applicable to stocks on hand. The first and general result of such legislation was to render the great business of distilling in all parts of the country almost altogether speculative and extremely irregular. A more special and immediate result of the first three and succeeding tax enactments was to cause an almost entire suspension of distilling, which was resumed again with great activity as soon as an advance in the rate of tax in each instance became probable. The stock of spirits which accumulated in the country under this course of procedure was without precedent; and as Congress, as already stated, refused to make the advance in taxation in any instance retroactive, it thereby virtually legislated for the benefit of the distillers and the speculators rather than for the Treasury and the country.

Under the first tax of 20 cents per gallon, imposed July 1, 1862, there was probably no very great fraud perpetrated. The idea of systematically cheating the Government was new; the persons concerned in the business of distilling did not fully know how to do it, and there was in addition an entire absence of that record and tradition of illicit practices in respect to matters of revenue that forms a part of the history and romance of almost every government of Europe, and entails an hereditary disposition to smuggle under the customs, to evade under the excise, and to socially ostracize every official charged with the execution of the laws and the detection of offenders. But there was nevertheless sufficient whiskey manufactured in anticipation of this low tax, or which evaded the tax after its enactment, to bring down the legitimate production of the country from ninety millions of gallons in 1860 to sixteen millions in 1862-3.

But early in the commencement of the new fiscal year, 1863-4, when it became evident that the great fiscal necessities

of the Government would soon compel an increase of all taxes, and that distilled spirits would be one of the first subjects upon which the rate would be raised, the situation speedily altered; and with this anticipation all the distilleries of the country gradually got into full operation. The advance anticipated was made on the 7th of March, 1864, and was from 20 to 60 cents per gallon. The Internal Revenue Bureau assessed and collected the spirit-tax for that year upon 85,295,391 gallons. Of this great product—sixty-nine millions of gallons in excess of the product of the preceding year—at least seventy million gallons were manufactured prior to the 7th of March, and were released from Government control by the payment of the 20-cent tax only; and as after the 7th March, 1864, the market-price of the greater part of this increased product, which had not been allowed to pass into consumption, was advanced in accordance with the advance in the tax,—i.e., 40 cents per gallon,—it is clear that twenty-five millions of dollars at least were thus at once legislated into the pockets of the distillers and speculators.

Again, immediately after the imposition of the 60-cent rate in March, 1864, nearly all the distilleries once more suspended operation; the country was acknowledged to be overstocked with tax-paid whiskey, and the Government almost ceased to collect taxes upon its manufacture. In May, however, the project for a further increase in the rates began to be again agitated in Congress; and as soon as its realization became probable all the distilleries speedily resumed operations. How great at that time was the capacity of the loyal States for production, and how actively the distilleries temporarily worked under the stimulus of a prospective increase in the tax, may be inferred from the circumstance that in the month of June, 1864, the number of gallons distilled and on which the Government collected the 60-cent tax was 10,468,976, or at the rate of 125,000,000 gallons per annum; while the number of distilleries in the country, which according to the census of 1860 was 1138, or in the ratio of 27,540 persons to each distillery, had increased in 1864 to 2415, or in the ratio of 17,242 persons to each distillery; and how this increase in distilleries further continued will be hereafter noted.

On the 1st of July, 1864 (or of the succeeding month), the tax was again advanced from 60 cents to \$1.50 per gallon; and during that month the entire product of the country of which the revenue officials could take cognizance was only 697,099 gallons. How great a "stock on hand," the result of manufacturing under the 20- and 60-cent rates of tax, was carried over the 1st of July and experienced the advance of 90 cents per gallon in market-price in consequence of the advance in the tax from 60 cents to \$1.50, cannot be accurately known; but sixty millions of gallons would certainly be a low estimate; and on this amount the profit that accrued to private interests was at least \$50,000,000. With the further advance in the tax on the succeeding 1st of January to \$2, the operations above described were again repeated, with all the benefit derived from former experience, and with a very large extension of the sphere of participants in the resulting profits. What was the resulting profit from this last transaction was estimated, by those who had opportunities for forming an opinion, at from twenty to thirty million dollars.

In short, all the available evidence indicates that the profits realized by distillers, dealers, speculators, through Congressional legislation having reference to the taxation of distilled spirits from July 1, 1862, to January 1, 1865,—a period of two and a half years,—and exclusive of any gains accruing from evasions of taxes, and with every allowance for overestimates, must have approximated one hundred million dollars.

Such, then, is a brief but probably as exact a narration as it is possible to now give of what may be regarded as the first of a long series of subsequent and successful operations in the United States which have had for their object the spoliation of the general public for the benefit of the comparatively few through legislative enactments or the abuse of corporate privileges, and which was almost unnoticed at the time of its occurrence by reason of the far greater importance of other and contemporaneous events. The transactions under consideration, nevertheless, mark an era in the history of the United States almost as important as the war itself; for before that time frauds, in this country, against the Government, and trafficking in the interests

of the community, were always comparatively small, and were never systematized on a large scale. The moral sense of the community previous to that time seems to have been also more impresible and less inclined to tolerate and overlook the prostitution of influence and position on the part of men prominent in public office or trusts for the sake of private gain. It was, moreover, the first occasion when the outside influences—subsequently termed the “lobby”—gathered round the halls of Congress in notable numbers, and with acknowledged influence and organization, for the purpose of influencing legislation in behalf of private and selfish interests. It was the opening of the flood-gates for an issue of corruption which has since then almost seemed to pervade the whole land, and which the press and the pulpit have not been able to roll back. Since then, also, nothing in this direction has been too audacious to venture, and there has been little in the way of attempt which the public has not tolerated, condoned, or speedily forgotten, more especially if the attempt has been accompanied by success.

One question, however, which naturally suggests itself at this point is, “What explanation can be given of the action of Congress in relation to this whole matter?” “How happened it that with the lesson of experience repeatedly before it and made a subject of discussion, Congress in successive instances, and always, refused to make the advanced rates on distilled spirits, enacted solely on account of the public necessity for greater revenues, applicable to stocks on hand, the greater part of which it was acknowledged had been manufactured solely for the purpose of profiting by the great advance in price certain to result from the advance in the tax?”

In reply it is to be said that it is not easy to satisfactorily answer these questions. It is certainly impossible to charge wholesale corruption or improper motives against the men in the two branches of Congress *who in the main* controlled and led the fiscal legislation of this period. Thus among those prominent in favoring exemption were Senators Fessenden, of Maine, and Trumbull, of Illinois—men against whom the voice of scandal never was and never could be raised; while on the other side were Mr. John Sherman, of the Senate, and Elihu Washburn,

of the House. The arguments brought forward in opposition to making the whiskey taxes retroactive were mainly that it was contrary to sound policy for the Government, after having assessed and collected the taxes on an article of manufacture and released it for sale or use, to again reassess the same property before it had been subjected to use; and also that it would be a matter of no little difficulty and expense for the revenue officials to find and assess a product of spirits after it had once become an article of commerce and passed from the supervision and custody of the Government. On the other hand, it was urged in reply that it was the custom of the Government, Federal and State, to tax the same articles, while awaiting consumption and use, at successive periods—as stocks on hand, animals, and agencies of production and transportation; and that much of the whiskey which it was proposed to subject to the surcharge was held in warehouses in quantity (as was afterwards proved to be the fact), and so was not difficult of ascertainment and assessment.

In the case of the first two acts of legislation by which the tax was originally imposed and then advanced, there was probably not much speculation or participation of interest on the part of members of Congress and revenue officials. But in the case of the last two acts, speculation and participation in the results of legislation were very extensive. The answer to a question put by the writer, some twelve years subsequent to the period of the events related, to a somewhat prominent member of Congress during the war, "To what extent his associates participated in the speculation contingent upon their legislation respecting the whiskey tax?" substantially was, "that his personal and certain knowledge of such transactions was very limited, but that he inferred, from the interest displayed by members in the current market rates and prices of highwines, the participation to have been very extensive." A personal interest was confessed in a hundred barrels, purchased under the 60-cent tax and carried until disposed of under the \$2 tax; and regret was also expressed that, inasmuch as the legislation in question was inevitable, he had not been bolder and profited more largely by his opportunities. From conferences with persons who were formerly and at the time officially employed under the internal

revenue, and spoke from personal knowledge, the writer also feels warranted in asserting that there was not a revenue district in the loyal States in which distilled spirits were manufactured or largely dealt in at wholesale, in which the officials of the revenue, collectors, assessors, inspectors, gaugers, clerks, and detectives, were not to a greater or less extent engaged in speculating in whiskey, and consequently personally interested in favor of Congressional legislation looking to an advancement of the rates; and that the transactions in question were not only no secret, but were regarded as perfectly legitimate. And as a single illustration of the profits accruing to private parties and in particular instances, a case made known to the Revenue Commissioners may be referred to, in which one firm manufactured or received under contract, for a period of several weeks prior to the assessment of the \$1.50 tax, an average quantity of thirty thousand gallons of proof-spirits per day: the major part of which was held and sold after the advance in the tax in January, 1865, to \$2 per gallon.

After the establishment of the \$2 rate on the 1st of January, 1865, there was again a period of inactivity on the part of those interested in the manufacture of distilled spirits. The stocks on hand, manufactured in anticipation of the advances in rates, were very large, and, the markets being oversupplied, there was little legitimate inducement for activity on the part of distillers. The profits realized, or made prospectively certain, had been, moreover, enormous, and no further advance in the rate of tax could be anticipated. Under such circumstances there was an apparent disposition on the part of manufacturers and speculators to wait and see what developments in legislation and business would follow the now certain termination of the war.

It was just at this period that the writer was appointed chairman of the "Revenue Commission," created by Congress under an act of March 5, 1865, for the purpose of inquiring into the best methods "of raising by taxation such revenue as may be necessary in order to supply the wants of the Government," and also concerning "the sources from which such revenue should be drawn;" and without any previous adequate preparation, and without any fund of experience available for guidance, other than what could be personally collected under the large powers

for investigation granted to the Commission, he entered upon his duties. The task at the outset seemed as hopeless as to attempt to tunnel a mountain with nothing but a crowbar; and one of the chief sources of embarrassment was to determine, from the immense number of points of detail, how and where to begin; for the United States revenue system at this time actually touched directly every art, trade, profession, and occupation of the country, and drew from them, and largely by direct taxation, in a single year (1865), the enormous sum of \$559,000,000. After considerable deliberation it was determined to commence the investigations with that one article or department of this great tax system which furnished the greatest specific revenue, which proved to be "distilled spirits." The theory which he entertained at the outset respecting the situation was the common and popular one, so far as there was any such, namely, that distilled spirits was a product upon which it was expedient to impose the heaviest burden of taxation; that if the annual consumption of the country averaged ninety million gallons, as it probably did before the war, a tax of \$2 per gallon would suffice to pay all the burden of interest on the immense public debt, and provide for its ultimate extinguishment through a sinking fund; and finally, that if the high tax resulted in restricting consumption, the gain to temperance and morality would far more than counterbalance any reduction of revenue. The method of investigation adopted was as follows: A typical distillery was *first* visited, and a study made of its machinery and system of operations, including the assessment and collection of taxes; *second*, the leading distillers of the country were brought to a conference, and their views and wishes obtained, and in conjunction a large amount of testimony from rectifiers, wholesale and retail dealers, was also taken; *third*, the leading officials of the Internal Revenue Office—assessors, collectors, inspectors, and detectives—were called together at Washington, and their opinions and experiences noted. Finally, books were consulted: and in this particular the situation in the United States was like that of the snakes in Ireland—there were none; while, apart from the British blue-books, the literature of all other countries in respect to the taxation of spirits was exceedingly meagre. The result of a long and careful inquiry, how-

ever, abundantly satisfied the writer that all his preconceived ideas on the subject, and which were also very generally the ideas of Congress and the great body of the people, were entirely erroneous; that under the influence of a high tax and a resulting high cost the production and consumption of spirits, exclusive of the demand for drink, was greatly restricted; and that under the conditions of a sparse population scattered over a vast extent of territory, and a form of government that would not admit of the use of a despotic, inquisitorial, and numerous police, the attempt to collect a tax of a thousand per cent on the first cost of any article was utterly impracticable. In a report made to Congress in January, 1866, it was accordingly recommended that the \$2 tax be abandoned and a tax of 50 cents per proof-gallon, conjointly with a license system for rectifiers and dealers, be adopted as the rate most likely to be productive of revenue and most efficient for the prevention of illicit distillation and other revenue evasions.

The report, altho attracting much attention by reason of the singular experiences of the preceding four years which it detailed, obtained no favor in respect to its recommendation of tax abatement; only two members of Congress of any prominence, namely, General Garfield and Hon. W. B. Allison, of Iowa, both then members of the House and of its Committee of Ways and Means, cordially accepting its conclusions. The result was no legislation, and a new chapter of experience; for when it became certain that the opportunity for realizing profits from manufacturing in anticipation of an increase in the tax had come to an end by the prospective maintenance of rate, the opportunity for profit offered by the imperfections of the law was at once eagerly embraced and improved. Thus, testimony subsequently brought to light repeated instances where individual distillers manufactured, conveyed to market, and fraudulently sold spirits, varying in quantities from 20,000 to 30,000 gallons and upward, without a suspicion on the part of local officials that the business was not in all respects conducted legally and honestly. It was sworn to before the writer that the determination of the strength of spirits, preparatory to assessment, was often made by mere physical inspection or taste, and that the use of instruments (for which no uniform

standard was provided) was regarded as something wholly unnecessary. It was also not unfrequently the case that barrels were inspected and branded some days in advance of their being filled, and their future regulation—filling and removal—left entirely with the manufacturer. Distillers and their workmen were sometimes constituted inspectors of their own product; and in one instance an assessor was appointed who did not possess sufficient intelligence to understand and correctly use either a gauging-rod or an hydrometer. Thus it was at the commencement of the period of high taxation; but subsequently, when the administration of the laws became somewhat more intelligent and vigorous, and some degree of concealment to the projectors of fraud became necessary, the expedients successfully adopted for the evasion of the tax were in the highest degree characteristic of the people. One of the most fertile of these was made available through a provision of law which allowed spirits to be made and stored in bond, or exported in bond, without prepayment of the taxes. Thus, for example, spirits deposited in bond were, through the connivance and corruption of ill-paid officials acting as guardians, secretly withdrawn from bond, the barrels filled with water or very weak spirits, and subsequently exported. On receipt of a "landing certificate," obtained through a consul of an inferior grade at some foreign port, the bonds given by the manufacturer for the payment of the taxes were cancelled, and the profits derived from the sale of the untaxed spirits in the domestic market, at the tax-paid rate, were divided among all concerned. Warehouses from which spirits deposited in bond had been fraudulently withdrawn were also frequently burned, and the bonds cancelled on evidence of loss, wholly fraudulent, but so strongly supported by perjury as to be difficult of disproof. Large losses were also sustained by the Government by the acceptance, as the basis of large transactions, of bonds which subsequent investigations, contingent on the exposure of more open frauds, showed were purposely made and given by persons of no responsibility, who in some instances by prearrangement agreed to accept the risk of persecution and trial, with an almost certainty of non-conviction by a jury, for a stipulated compensation or a share in the anticipated fraudulent profits.

It is to be also noted that the number of licensed distilleries, which in 1864 was 2415, or in the ratio of one to every 17,242 persons, had increased in 1868 to 4721, or in the ratio of one to every 8058 of the population. In short, the tax of \$2 (amounting to 1000 per cent advance on the average cost of manufacture) and the enormous profits contingent upon the evasion of the law, coupled with the abundant opportunity which the law through its imperfections, and the vast territorial area of the country, offered for evasion, created a temptation which it seemed impossible for human nature as ordinarily constituted to resist; and the longer the tax remained at a high figure, the less became the revenue and the greater the corruption. Thus during the year 1866-7 the revenue directly collected in the United States from spirits distilled from other materials than fruits was \$29,198,000, and in 1857 \$28,296,000, indicating an annual product respectively of 14,599,000 and 14,148,000 gallons. But during the succeeding year, 1868, with no apparent reason for any diminution in the national production and consumption of spirits, and with no increase, but rather a diminution, in the volume of imported spirits, the total direct revenue from the same source was but \$13,419,092, indicating a production of only 6,709,546 gallons; proof-spirits at the same time being openly sold in the market, and even quoted in price-currents, at from five to ten cents less per gallon than the amount of the tax and the average cost of manufacture. We have also in these figures the materials for approximately estimating the measure and strength of the temptation to evade the law, and the amount of profit that must have accrued in the single year 1868 from the results of such evasion. For as the consumption of distilled spirits in the country during that year was probably not less than 50,000,000 gallons, and as out of this the Government collected a tax upon less than 7,000,000, the sale of the difference at the current market-rates of the year, less the average cost of production (even if estimated as high as 30 cents), must have returned to the credit of corruption a sum approximating \$80,000,000. To this must be added a further unknown but undoubtedly loss of revenue, growing out of the circumstance that the influence of successful fraud in the matter of spirits seemed to infect and

demoralize almost every other department of the internal revenue.

But notwithstanding all these facts were for three years annually reported upon and in detail by officials of the Treasury, and were also generally recognized and commented on by the press, it was with the greatest difficulty that Congress could be induced to take any action looking to remedies by the enactment of more perfect laws, by providing for more efficient administration, or for diminishing the temptations to fraud by diminishing the tax; and it was not until the revenue from distilled spirits bade fare to disappear altogether, and the popular manifestations of discontent became very apparent, that anything really was accomplished; a report from the Committee of Ways and Means of the House of Representatives, in favor of a new law and a reduction of the tax, having been actually prevented in 1867, and action delayed thereby a whole year, by an appeal of a leading member of the Committee—who has since posed as a great statesman—for postponement of action, on the ground that it would be derogatory to the honor of a great nation to confess, “after having put down a great rebellion, that it could not collect a tax of \$2 per gallon on whiskey.” There may have been instances in history where one single speech of an individual has led a nation into war and into consequent great losses and expenditures, but there probably never was a speech in reference to the civil polity of a government which can be proved to have been as expensive as the silly utterances above quoted. For reform being thus delayed, the *direct* revenues from *all* distilled spirits fell off in the fiscal and succeeding year, 1868, to the extent of \$14,874,000 as compared with the receipts from the same sources for the previous year, 1867, or from \$29,164,000 to \$14,290,000; while on the other hand, when by the act of July, 1868, the direct tax was reduced to 50 cents per proof-gallon, the receipts for the ensuing and incomplete fiscal year increased at once to the extent of nearly \$20,000,000, or from \$14,290,000 in 1868 to \$34,245,000 in 1869; or, including all taxes on the manufacture and sale of distilled spirits, licenses, etc., from \$18,655,000 in 1868, to \$45,071,000 in 1869. And as there is no question that this advance might have been realized through legislation in

the previous year but for the influence of the speech of the "statesman" in retarding action, the direct cost of his words may be fairly estimated at over twenty-six millions of dollars, to say nothing of indirect losses to the Treasury contingent on the continuance for another year of a system which magnified temptations and made frauds easy.

It is to be here noted that in preparing the law of July, 1868, by which the direct tax was reduced from \$2 to 50 cents per gallon, the intent of the writer, which was realized, was to make the total aggregate tax 70 cents per gallon, but to impose only 50 cents as a maximum tax on the spirit as an article of manufacture, and to distribute the balance (20 cents) in the way of licenses, fees, etc., at points intermediate between the manufacture of the spirits and their final sale to consumers, but so remote from and so disconnected with the process of manufacture as to render collusion between producers and distributors with a view to gain by evading the law almost wholly impracticable. Another leading object was to fix the direct tax at such a sum as would diminish the temptation to fraud to the greatest possible extent consistent with the procurement of such an amount of revenue as was demanded by the necessities of the Government. The rate of 50 cents per proof-gallon, recommended by the writer, who was then "Special Commissioner of the Revenue," and subsequently adopted by Congress, was fixed upon, because investigations showed that on the average the product of illicit distillation costs, through deficient returns, the necessary bribery of attendants, and the expense of secret and unusual methods of storage and transportation, from two to three times as much as the product of legitimate or legal distillation. So that, assuming the average cost of spirits at that time in the United States to have been 20 cents per gallon, the product of the illicit distiller under the most favorable circumstances would cost from 40 to 60 cents, leaving but 10 cents per gallon as the maximum profits to be realized from fraud under the most favorable conditions—an amount not sufficient to offset the possibility of severe penalties of fine, imprisonment, and confiscation of property, which were made essential features of the new enactment. Another feature of the new law, never before attempted, was

a requirement that the original taxes on the spirit, as well as the license taxes on its subsequent manipulation and sale by rectifiers and wholesale dealers, should be paid by means of various stamps affixed to the packages containing the spirits,—which stamps, through their numbers, devices, and record, established the identity of the spirits wherever found, and their relations to the various tax requirements. This system, originally proposed and worked out by the writer, was at first violently opposed as wholly impracticable; but was finally adopted, and, after some modifications suggested by experience, has proved in the highest degree practicable and successful. A similar stamp system for collecting the internal-revenue taxes on fermented liquors and smoking tobacco was also, on the recommendation of the writer, adopted by Congress, and has also proved successful.

In answer now to a question which those who have followed this narrative may naturally put, "What was the sequel to this radical change in this department of the revenue laws of the United States as it existed in 1868?" it may be said, without the possibility of challenge or contradiction, that in the whole history of political economy, finance, and jurisprudence there never was a result that so completely demonstrated the value of careful scientific investigation in connection with legislation. Illicit distillation practically ceased the very hour the new law came into operation; and evasions of the law were confined to occasional false returns, and a re-use, on a very limited scale, of the stamps with which the tax was for the first time made payable by purchase and cancellation. Industry and the arts experienced a large measure of benefit from the reduction in the cost of spirits, more especially in the form of alcohol; while the Government collected during the second year of the continuance of the new rate and system, with comparatively little friction, *three* dollars for every one that was obtained during the last year of the two-dollar tax.

The great economic and moral lesson to be deduced from this curious record of experience is, that whenever a government imposes a tax on any product of industry sufficiently great to sufficiently indemnify and reward an illicit or illegal production of the same, then such product will be illicitly or illegally manufactured; and when that point is reached, the losses and penal-

ties consequent upon detection and conviction—no matter how great may be the one, or how severe the other—will be counted in by the offenders as a part of the necessary expenses of their business; and the business, if forcibly suppressed in one locality, will inevitably be renewed and continued in some other. It is the part of a civilized government, therefore, in framing laws for the assessment and collection of taxes, to know when the maximum revenue point in the case of each tax is reached, and to recognize that in going beyond that limit the government “over-reaches” itself.

The history of the experience of the United States in taxing distilled spirits subsequent to the time when this narrative now terminates, embracing renewal of frauds when the 50-cent tax was abandoned, the curious invention, use, and abandonment of the “Tice meter,” and the no less curious experience of the State of Virginia in endeavoring to register and collect a State tax on the retail sale and consumption of spirits through the agency of the so-called “Bell-Punch Law,” can only properly be detailed in another chapter.

DAVID A. WELLS.

THE TWO SCHOOLS OF POLITICAL ECONOMY.

EVERY careful observer of current opinion knows that the system of Political Economy which we have imported from England, and which we generally teach in our colleges, does not command that universal assent to which its scientific character and the eminence and influence of its expounders would seem to entitle it. That these expounders are to be counted among the great men of our time none will deny; and when we find the opinion of the masses diverging from the principles held by such men, it is natural in the first place to attribute it to defective education. But in the present case it cannot be claimed that distrust of the teachings of political economy is confined to the less educated classes. As a matter of fact, it will be found difficult to name any one class of men who mingle with the world among whom at least a large minority, possibly a majority, will not be found to share the distrust in question. Farmers, men of business, college graduates, eminent philosophers, students fresh from the seats of learning in Germany, are all imbued with the same feeling.

There are yet other considerations which give seeming weight to the dissent in question. The general rule is that when a sound body of doctrine is assailed from fallacious standpoints, the views of the assailing parties are so confused and contradictory that they can be easily disposed of by pointing out their inconsistency. But in the present case a careful examination will show that these widely different classes of men assign substantially the same reasons for their dissent. Can views which are shared by such widely separated classes be other than sound? This is the question which it is the object of the present article to consider. It will assist the reader in following us if we begin

by indicating our conclusion. It is in brief that the objections raised against the economic system alluded to, which is commonly called the English Political Economy, are founded on a misapprehension of what that system professes, or ought to profess, to do and to teach. It does not follow from what we say that there is anything erroneous in the general current of the views held by the objectors themselves. They are simply men who, in applying their views to the case in question, forget the limitations which are placed upon human knowledge in every department of inquiry, and the necessary imperfections of all scientific statement. We shall prove this conclusion by showing that the very same objections which they raise against the current system of economy can be raised against almost every branch of human knowledge with equal force and conclusiveness.

We must begin with a precise statement of what the objections are. This we can do by quoting, almost verbatim, propositions which may be found in the writings of such a logician as Wundt, in a brochure by Dr. Ely, recently issued by the Johns Hopkins University, and in the daily conversation of almost every man of business. These different men and classes all agree in framing an indictment of which the substance is the following:

The political economy of the schools is a deductive science founded on a-priori hypotheses respecting human nature, which are too wide of the actual facts of the world to form a sound basis for any practical conclusion. It assumes to subject all economic phenomena to a few formal laws, and fails to consider how these laws are modified or even reversed in practice. It takes no account of the very different circumstances in which different nations and communities are placed, but assumes all to be under the same system. It assumes universal self-interest and universal selfishness as the preponderating causes of economic phenomena. Some of its great expounders attempt to establish far-reaching principles without adducing one single illustration from actual life, without bringing forward a single historical fact, and without citing any event which ever occurred. It assumes an absolute lack of friction in all economic movements. Not only do capital and labor move with perfect ease from place to place, and from employment to employment, but

this, it is implicitly maintained, is accomplished without the slightest loss. The silk-manufacturer diverts his capital into another employment, like the construction of locomotives, with precisely the same facility with which he turns his family carriage-horse from an avenue into a cross street. From such assumptions equality of profits and equality of wages are readily deduced, while the fact that inequality is the universal rule is entirely ignored. The result of thus substituting ideal for actual conditions is a body of doctrine which, however logically it may be reasoned out, does not agree with the state of things which actually exists around us.

Formidable as this indictment looks, we can easily show that it applies with equal force to every branch of pure science, when we consider the science in its relation to practical applications. It is in fact a most valuable illustration of a truth which every logical student should know, but which hardly any one always bears in mind—that all scientific propositions are in their very nature hypothetical. Let us take examples of the most familiar sort.

If we begin by examining any school arithmetic, we shall hardly find an illustration adduced from the actual history of mankind, and only here and there will we find any mention of a single event which ever occurred, or a single transaction which ever took place. The problems in arithmetical operations are all made up by the author out of his own head, or borrowed from others who made them up in the same way. When a boy is set to compute interest on a note, it will be found that no such note was ever drawn, and that the parties whose names are signed to it never existed. The same remark applies to the numerous grocers, laborers, custom-house officers, and merchants who are quoted in the book. Not one is an actual man, but all are hypothetical and imaginary products of the author's brain.

When the pupil gets into Algebra the case is intensified. He is set to work on quantities called x and y without a shadow of proof that any such quantities ever existed. It is yet worse when he reaches Geometry. He is taught that lines have no thickness, when, as a matter of fact, every line that anybody ever saw or conceived of had thickness. He is set to work on purely imaginary triangles, quadrilaterals, and circles; and throughout the whole treatise there is not one allusion to a geo-

metrical figure which ever had a visible existence outside the book.

But is not the matter improved when he gets to Physics? Is he not now confronted with the actual facts of nature? No: on the contrary, all natural phenomena are positively contradicted by the propositions he is taught. Not satisfied with talking about things which never did exist, he is introduced to things of which we cannot define the existence without a contradiction in terms—such absurdities as a material point, for example. He is told how a body acted upon by no force will move, when, as a matter of fact, no one ever saw in the universe a body which was not acted on by some force. He learns the law of falling bodies, which tells him that a body falls sixteen feet in the first second, three times that distance in the next, five times in the third, and so on, without end. As a matter of fact no body ever did or ever could fall according to this law. It rests upon two perfectly unattainable hypotheses: (1) that there is no atmosphere to resist the motion of the body, and (2) that the force of gravity is the same at all heights. The fact is that not only did no body ever fall according to this law, but no body was ever known to move in accordance with the law for any considerable period. When the mechanical powers are taught, no allowance is made for friction, altho this agent modifies the effect in all cases, and is sometimes the most potent factor in producing it. Thus all the laws of power in machines which the student learns are not applicable to any actual machine, but only to ideal conditions, which never existed on earth and could rarely be produced if men tried to. In fine, the whole of physics as taught in our schools and colleges is a purely ideal science, which is concerned with a kind of matter and a state of things which never existed in the world, and which would lead any firm of machinists into pecuniary ruin should they apply its principles unmodified in their calculations.

We have made it quite clear, we trust, that the indictment under consideration lies with as much force against all the exact sciences as it does against Political Economy as taught by the English school. As a matter of fact, every one who has studied the views of the class of so-called "practical men" who undervalue what they term "theory" knows that this class

really does bring against the practical value of scientific training objections substantially identical with those under consideration. The question which now meets us is whether it is possible to construct a system of Political Economy which shall be free from such objections. Our object is to answer this question in the negative, by showing that the imperfections alluded to are inseparable from all exact knowledge. Paradoxical tho it may appear, the fact that the phenomena of nature cannot be reduced to simple formal laws does not render less necessary the consideration and study of such laws. Most of the effects which we observe either in nature or in human society are the products of a complex combination of causes, acting and interacting in such a way that it is impossible to trace their combined action by any direct process. If we expect to study their action by any rational method, only one mode of proceeding is open to us—that of analysis. We begin by isolating each separate cause, and considering what would be its action were all the others absent. But, since the causes act only in combination, the separate study of each is necessarily the study of a state of things which as a matter of fact does not exist. Thus the introduction of ideal conditions instead of the real conditions is a necessary first step in any rational system of exact knowledge.

We are now in a condition to illustrate more fully the proposition already alluded to—that all science is from its very nature founded on hypothesis. The expression of a law of nature is merely an assertion that under certain circumstances a certain result will be produced. So far as the law is concerned the circumstances may or may not exist; they may even be such as never did exist without at all impairing the validity of the law. Let us take a proposition so simple as that gunpowder explodes. It presupposes as an hypothesis the existence of gunpowder. There may be large regions of country where there is no powder, and there the law is entirely without application. Again, the powder will not explode unless it is touched by fire. Here we have again another hypothesis—fire. Thus, so familiar a proposition as that under consideration is only hypothetically true. But this is not all. We must always assume not only some positive hypothesis, but the negative

hypothesis that all causes which might influence the result are absent. In other words, the enunciation of all natural laws is to be understood with some such limitations as "other conditions being equal," or "if no other cause intervenes to modify or prevent the effect." These same qualifications must be understood in all applications of the principles of political economy. The writer does not for a moment pretend that economists always remember this qualification. But they are perfectly excusable for not always expressing it, because they must leave something to be supplied by the reader. Gunpowder will not explode if it is wet, nor if it is treated in any one of many other ways. Is it therefore necessary in every chemical treatise where the properties of gunpowder are described, that an exhaustive statement of the conditions under which it will not explode must be made? Is chemistry a delusion and a snare because a hunter may have considered the law that gunpowder explodes true, whatever the condition of his powder-flask, and may have missed a shot in consequence? The person who expects either economic or physical phenomena to occur according to formal laws, regardless of circumstances, is justly stigmatized as a doctrinaire, and one who interprets these laws in accordance with the doctrinaire method should be relegated to the same place of perdition to which we assign the doctrinaire himself.

The great mistake made by the objectors is that of supposing that the economist considers all his hypotheses as susceptible of universal application without any restriction or modification whatever. We avoid this error by remembering that the correctness and applicability of the hypothesis are always open to challenge, but that the fact of its incorrectness or inapplicability no more invalidates the general law founded upon it than the fact that there may be no gunpowder within a thousand miles of the north pole invalidates the truth of the theorem that gunpowder explodes. A careful study of human nature would perhaps show that the power of always distinguishing between the truth of the hypothesis and the truth of the connection between the hypothesis and conclusion is rarely acquired by the large majority of men. We may define a wise man as one equipped with a large and well-selected stock of hypotheses,

properly arranged for use, each with its conclusion attached. To foresee what will occur to-morrow he selects from his hypotheses such as correspond most nearly to the state of things to-day, and then forms his conclusions accordingly. If he applies an hypothesis which is not valid to-day, and thus reaches an erroneous conclusion, that is his fault, and not the fault of the law. So also if the hypothesis is itself true, but other causes come in to modify its action, we have a case of defective knowledge which may lead to a mistaken conclusion. But no science that ever existed professes to give formal rules by which conclusions can be worked out without any exercise of judgment on the part of the individual.

In the light of these considerations, let us inquire how we must proceed to establish a sound system. The causes with which the economist has to deal differ from those which appear to us to operate in nature in this important point—that final causes or the ends which men have in view come into play. This fact makes it necessary to follow quite different methods in physical and in economic investigations. But in both classes of inquiry we have this in common, that to reach a really satisfactory conclusion we must analyze the causes which act into their component elements. The first step of the economist must be to discover and define the most general and widely diffused tendencies of human nature, just as the physicist commences by teaching the most general laws of force. Now, if we study civilized men, we shall find that notwithstanding the wide diversity between the motives which actuate different men, and the conditions in which they are placed, they have this in common: that when they want to reach an end, they adopt the easiest and shortest way to it which they can find, unless they have some special reason for preferring another way. This is as sound and comprehensive a law as that a stone will fall directly downwards unless it is turned aside by some intervening force. Not an objection can be made to the one that may not also be made to the other.

Again, a large majority of the intended acts of every man are executed for gaining some end which he, the man, has in view. The good he seeks is his own, and not that of anybody else, except so far as he may make the good of others an object to

himself. Economically and scientifically there is no difference between the acts of the man working to get a loaf of bread for himself, and of the man working to get a loaf of bread for his neighbor, except that the former are more common. Thus the actuating motives of men in general may be called "selfish" in a scientific sense, however disinterested they may be in a popular sense.

Again, nearly all human acts with which the economist is concerned are those directed towards the acquisition of wealth. These acts have this common feature, that the man so directs his exertions as to obtain from them the maximum amount of wealth, unless his course is modified by some other cause than the desire of wealth. The objection that the latter is not the sole and universal motive among men has no more force than the objection that the tendency to fall is not the sole and universal force which acts upon bodies upon the surface of the earth.

Again, economics can concern itself only with average results as they arise in the general action of great bodies of men. It takes no account of the individual bargaining in a desert between John, who owns the only camel within reach, and William, who has the only bucket of water within reach. It is not concerned with the fact that Smith gives double wages to his coachman out of pure sentiment, except so far as this sentiment may be common to all men. Now, however capricious may be the acts of the individual, it is certain that when we consider only average results common to the whole, these results have a certainty, permanence, and freedom from caprice which individuals do not exhibit. Where the individual may be travelling or residing at any moment no man can predict. But the centre of gravitation of the whole population of the United States has during the past thirty years moved past Cincinnati and along the neighborhood of the Ohio River with a slow and regular motion, which statistics show to be as exact and definite as the change in the pointing of the magnetic needle.

It is also to be admitted that unknown causes play a very important part in Political Economy, more important, perhaps, than they do in the applications of Physical Science. The result of this partial ignorance is that economic phenomena cannot

be predicted as physical phenomena can; and thus one proof of the soundness of scientific conclusions, which appeals so strongly to the human mind in the work of the astronomer, is not at the command of the economist. But this defect again is less of a drawback in Political Economy than it might appear at first sight. The unknown causes which we cannot predict are generally such as men cannot influence. When we come to those which men can influence there is not the slightest doubt that scientific prediction can be applied. In other words, the unknown quantity is the cause itself, and not the relation of the cause and its effect.

Hence confining economic science within certain necessary bounds—that is, regarding it firstly as concerned only with general averages, and secondly as concerned only with the relation of cause and effect, and not merely with known causes—its applications are not subject to any greater limitations than are those of Physical Science. Upon the widely diffused tendencies of human nature, which we have described, we can build up a system bearing the same relation to the transactions of the commercial world that theoretical physics bears to the working of machinery. Such a system is that commonly known as the “school economy,” and taught by Ricardo and Mill. The objections to the deductive features in this school can arise only from a misapprehension. Its deductions being only hypothetically true, are not to be applied in practice unless the actual case is shown to apply to the hypothesis. But it does not follow that the method is useless because it needs modification when applied to particular cases, because this is true of all science.

Deduction is an essential process in every rational explanation of human affairs. To say that we are not to apply it to any subject is equivalent to saying that we can have no rational conception of the relation of cause and effect. A subject of which this is true would be quite unworthy of the study of men. It is a familiar fact to those who have studied human nature, that the so-called “practical ‘men’” who proclaim most loudly their distrust of what they call “theories” are extremely liable to become the victim of the most unfounded theories and injurious superstitions. Any one pretending to have a system of

economics must be able to say that some assigned cause will produce definite effects, which he can foresee, upon the interests of society. If he cannot foresee what effect would be produced by any cause whatever, he has nothing worth talking about in his system. Now, the prediction of any effect of this kind is in its very nature an operation of deduction, and subject to the same limitations which have to be imposed on the deduced consequences of the purely theoretical economy. The conclusion of the protectionist, that the free competition of low-priced labor will diminish the wages of high-priced labor, is reached by a purely deductive process. Even if such a conclusion could be reached by induction,—that is to say, if we actually found by the collection of statistics that wages had been lowered by such competition,—the conclusion that they would be lowered in future would be a deductive one. It would in the first place presuppose that the competition had in times past been the true cause of the lowering of wages. And the conclusion would rest on the hypothesis that no cause would come into play to modify the effect. The conclusion would therefore be subject to all the limitations imposed on deductions generally.

Let us now look at what the objectors have to offer us in exchange for our system. Some of the more intelligent and distinguished of them profess to be disciples of a new school known as the German, statistical, or historical school. The one fundamental principle of this school is, that instead of beginning with certain hypothetical principles of human nature it professes to start from the great facts of history and statistics. Starting in such a way would be as bad as commencing the study of geometry by instructing the pupil in land-surveying, or commencing physics by taking the student around to see all the machinery in a city at work. Moreover, the new school has not really put any new system into practice. When we examine its writings we find them divisible into three classes. First, we have works like those of Roscher, which, whatever merit they may possess, do not, in their mode of development, differ radically from the system to which we are accustomed, and which therefore cannot be considered as forming a separate school unless we ascribe an extraordinary importance to differences of detail, and regard the works of every different writer as forming a different school.

We have, secondly, a large mass of statistical investigation and social studies affecting the well-being of nations. But this is applied, not pure, political economy, and is at best only an application of principles of political economy to be otherwise learned. Finally, we have a very large mass of mere nonsense, of no interest or value to anybody except the student of psychology, who may use it to illustrate the aberrations of the human intellect.

Our judgment of the new-school economist must therefore depend upon his position. In so far as he is one who points out that the old system, however consistent and logical it may be, cannot be safely applied without due consideration of all the modifying causes which may act in each particular case, he is a sound teacher, how little soever common-sense people may need his teaching.

When he tells us that he has found out a better way of developing the subject,—a method by which the incompleteness inherent in all scientific systems is avoided,—he takes a position which he lamentably fails in making good. There is not a stone in his foundation capable of bearing any weight at all which is not taken from the English system. He can and does make valuable additions to the superstructure, but has added nothing better than platitudes to the foundation.

When he denounces and professes to reject the commonly received propositions which lie at the base of the subject because they are not absolute and universal, he is guilty of a proceeding so irrational that only the number and strength of his following entitle him to serious refutation.

SIMON NEWCOMB.

DESCARTES AND THEOLOGY.

IN a little book recently published on the life of Descartes, I endeavored to put from a new point of view the main facts of this great philosopher's life. The book was without preface, and it was left to the critics to find out for themselves what was new and what was old. As they have failed to do so, it may not be out of place to say a word on the subject here; it will fitly introduce the main inquiry of this paper. For, as they rightly observed, it was impossible within so limited a space to discuss the whole of so important a system, and it is therefore my present intention to follow out the new indications on the relations of Descartes to the theologians, which I had already briefly set forth.

The first point on which previous biographers appear to have erred is the date of Descartes' discovery of the application of algebra to geometry. It was heretofore ascribed to a chance inspiration in the class-room at La Flèche. This oft-repeated opinion, to which even Kuno Fischer subscribes, rests on no reliable evidence, and is clearly inconsistent with subsequent facts. The discovery was indeed impossible till Descartes had read the newer developments of algebra by Vieta, and this he did not do until he settled down to scientific work in Paris.

The second point hitherto misunderstood was the nature of the extreme mental crisis he underwent on 10th November, 1619, when he was affected with visions and dreams, and could not contain his excitement. This was no mere general revival in the direction of scientific study, nor was it the excitement consequent on a mere mathematical discovery; for Descartes never rated mathematics in themselves very highly, and thought the solution of speculative problems mere waste of time. The

real cause of his excitement was his first glimpse of the great discovery of his life—not the application of algebra to geometry, not the *cogito ergo sum*, not the essential distinction of mind and matter, but—the application of algebraic reasoning to physical phenomena. It was this reducing of the science of nature to purely mathematical calculations which he always set forth as his prime discovery. He reduced the qualities of matter—heat, color, flavor—to the figure and the motion of its particles. All these particles were extended and therefore figured, or geometrical quantities. Their motion could be computed mathematically. Hence all which was required was the general application of the calculus to figures too minute or too complicated for geometrical reasoning. This being provided by his analytical geometry, he had bridged over the chasm between algebra and nature, and provided the means of calculating *a priori* the laws of nature and the myriad modifications of matter. "Give me extension and motion," he boldly exclaimed, "and I will construct you the world." This it was which occupied the whole of his mature life. He was ever making experiments and observations to corroborate this doctrine. He was ever seeking to show that the mechanical explanation of nature is all-sufficing, and that there is no effect in nature so apparently disconnected with mere motion and figure that it cannot be really derived from them.

The only guarantee which Descartes originally proposed for all these conclusions was their deduction from simple notions which he perceived *clearly and distinctly*. They must be clear in themselves and distinct from all around them. This was his inheritance of the spirit of the age, which breathes through the early religious reformers, and through Bacon, and more obscurely through the Italian philosopher of the Renaissance, whose names have survived, tho their works are buried and forgotten in our dustiest libraries' most dusty shelves. The age had broken with Aristotle and with the authority of the schools, even where the authority of the church in matters of faith was still acknowledged. Men were throwing aside all the old guides and the old methods, and seeking a new and independent point of departure. Thus we find Descartes and his earlier correspondents speaking of Bacon not as a novel theorist, a pioneer into untrodden paths, but as an exponent of the world's want, and a thinker

who was only required to build up a positive edifice on the ground which by common consent was now to be cleared of its older tenements.

There was not, therefore, any so striking originality in Descartes' *proclamation of doubt* as regards older science or popular knowledge. Such proclamations were common in those days, and amounted in fashionable French society to actual Pyrrhonism. What was really remarkable about Descartes's doubt is this, that while he specially exempts morals from his attack, while he says he must live in a temporary house while he is pulling down and rebuilding his mansion, and while he afterwards rebuilds its moral wing by a mere selection of the old materials—while he is thus express about morals, he says not one word about theology. Or rather here and there, when he feels himself urged, he says, "Of course the doctrines of the Catholic Church are absolutely true; they are derived from direct revelation; I should be the last to question them; if anything I say conflicts with them in the smallest degree, I hereby retract it." But he never did retract any single proposition he put forward; he may have delayed its publication; he doubtless suppressed many things he would gladly have said; but to retract mentally, to abandon honestly, for the sake of the church, any conclusion he had attained clearly and distinctly, never once entered his mind. He lets us see a little further than usual into his real convictions when he says: "Of course we know by revelation that the world was made in six days, and by the direct creation of the Deity; but it *peculiarly satisfies the mind* to comprehend how these things could take place by natural and gradual means." He goes on to explain the genesis of the universe on the supposition that an Eternal Creator, starting with nothing but homogeneous extended matter, variously figured, and with motion, could cause the whole world to be gradually developed from them by natural and necessary results. In one other place, probably in an unguarded moment, he identifies this Deity with the *order of the world*; and as he distinctly suggests that miracles are only the action of known laws in unusual combinations, as he even suggests the possibility of a *science of miracles*, which could produce them when required, he evidently admitted no direct or personal interference of the

Deity beyond the creation and conservation of the material world.

In the moral world, his practical advices show the same turn of mind. He never, in his addresses of consolation to various friends, alludes to the comforts of religion, to its promises of future bliss, and the happiness of reunion in heaven. He never recommends the suffering and the bereaved to fly for succor to their priests and embrace the promises held out to the faithful. He builds his own moral system on a syncretism of Stoic, Epicurean, and Peripatetic doctrines. He exhorts to tranquillity of mind, to firmness of purpose, to a contempt of fortune and her freaks. Never does he speak of trust in God, of resignation to his will, of future rewards or future punishments. Once, I think, in all his works (cf. p. 12) he expresses a *philosophical* belief in future existence of the soul and its happiness. Whenever his doctrines were attacked as being in conflict with those of the church, he did not modify his philosophy in deference to the church, but sought means of accommodating the church doctrine to his philosophy. Never was there a more thoroughly secular spirit, never was there a mind more averse to dogmatic theology, to the claims of faith, or to the demands of authority. His studied politeness to the church meant no more than the extravagant compliments he thought it right, as a French *gentilhomme*, to pay those royal ladies who honored him with their correspondence. His title of orthodox Roman Catholic, dying with the rite of extreme unction, meant no more than his title *du Perron*, which he retained to please his family, tho he had sold his inheritance and abandoned its privileges.

How was it, then, that in spite of all his efforts to avoid religious controversy, in spite of his careful submission to sacerdotal authority, in spite of his strict conservatism in what appertained unto faith, he was perpetually involved in this kind of conflict, and that his name was a watchword in the quarrels of religious sects? How is it that even now the theological elements of his system do not cease to occupy metaphysicians, and to count justly as prominent features in his doctrine?

This question is easy to answer for those who regard Descartes as originally and fundamentally a religious philosopher,

anxious to supply a metaphysical groundwork for the doctrines of the church. And Descartes himself never objected to this interpretation of his philosophy. But if we adopt the view just set forth as to his thoroughly secular and non-religious spirit, the problem becomes more complex and more interesting, as we must solve it from inferences suggested by his works in their historical development.

We know that while still in Paris, long before he published his famous first work (the Essays) in 1637, he had occupied himself with a treatise "On the Existence of God." This was during the period (1625-29) when he was thinking out his system, and fortifying it by discussion in the literary and scientific atmosphere of Paris. He tells us that the distractions of the city made continued thought impossible, and that he at that time abandoned his task. It is easy to see why he felt himself driven in this direction. The society of Paris was profoundly sceptical, and when he announced his rejection of all received systems, and of all scholastic pedantry, they cheered him to the echo. But when he advanced to the positive part of his system, and proposed to base his new science on the mere assurance of clear and distinct conviction, the sceptics joined issue with him. How can you know, said they, that your clear and distinct ideas have any objective certainty—objective, we mean, in the modern sense? Were not the schoolmen as convinced as you are that they saw *clearly and distinctly* the truth of Aristotle's philosophy? Where is your guarantee that what you believe to have demonstrated is not equally idle?

To answer this difficulty Descartes must have been sorely exercised at one time. He could not fall back on the authority of the church, which he would not concede anywhere save in theology. And yet he must find some basis to satisfy at least his theological friends, who were suspicious of the consequences of his universal doubt. His escape from the difficulty, tho by no means logical, was one of the most remarkable features in his system. His earliest work on method, the "Règles pour la direction de l'esprit," contains hardly a word on the subject; his Essays are its first and complete pronouncement.

Among the ideas which he perceived clearly and distinctly so that he could not doubt them was that of a perfect and om-

nipotent Being, the counterpart of the defective and imperfect being which he felt himself to be. And here the shadow of scholasticism touched him, and he proceeded to an analysis of this idea more in the style of Augustin or Anselm than we should have expected from the seventeenth-century sceptic. He perceived clearly that among the perfections of this Being existence must be included *ex hypothesi* as it were, and so he asserted that the *existence* of God was a necessary datum of his own thinking. Here we have that remarkable passage from thought to existence which we find again in his philosophy—an argument which Hegel has resuscitated in our own century. All his other proofs or modifications of proof that the Deity must exist are based, as Kant clearly saw, and as indeed he himself admits, on this passage from the clear *idea* of an infinite and perfect Being to his necessary *existence*. This Deity once established, it followed that he must be the creator of the world and of man, that he could not possibly make man's convictions a mere system of delusion, and therefore our clear ideas, and our strict deductions from them, obtained a new and adequate guarantee.

Of course his adversaries were far too well trained in logic not to attack this argument as moving in a vicious circle. "You prove the existence of the Deity," they objected, "on the evidence of your clear and distinct idea; you guarantee the truth of the idea by the authority of the Deity you have thus established." His reiterated reply to this objection grants that no other possible guarantee can be found for an idea present to the mind except its clearness and distinctness. But in the case of past conclusions, in the case of the knowledge once acquired and now stored up in the memory—habitual knowledge, as Locke called it—the veracity of a Deity who created us is necessary to secure us from scepticism. Of course he ought to have argued that this habitual knowledge is either recoverable, step by step, in the way it was once acquired, thus showing the clear and distinct ideas it contains and their necessary connection, or that it is not scientific knowledge at all. But this he never did. His friends were so delighted at his reconciliation with natural theology that they urged him to fortify this point; they called it the stronghold of his doctrine. When Descartes had

once adopted an argument he never abandoned it, and he reiterated over and over again this demonstration, and often spoke of the "Meditations," in which it was most fully expounded, as the most perfect and valuable of his works.

Thus we find our philosopher in the field which he had carefully excluded from his original research. He might indeed have guessed that theology would invade his studies somewhere, however careful the separation from its sphere, however wide a berth he was desirous of giving to the theologians. He might indeed also have guessed, and perhaps knew well enough, that he too must invade theology, and that his philosophy would lend arms to the religious Reformation already begun and progressing.

But altho he sought the support of natural religion for his science, tho he set up the certainty of the existence of God as the first condition of real science, which accordingly an atheist could not attain, he never expanded this idea beyond the strictest bounds of metaphysics, and never called in for one moment the aid of revelation or of the inspired words of Holy Writ. He defines the Deity as "a substance infinite, eternal, immutable, independent, omniscient, omnipotent, by which I, and all other things that are, have been created and produced." He does not insist upon personality as one of these attributes, nor does he discuss any moral attributes save the absence of deception and ill-will, which are marks of imperfection. As for special mercy, particular providence, successive dispensations of dogma, they are unknown in his philosophy. Moreover, since he regards the conservation of the earth from moment to moment an act of omnipotence of the same kind as a perpetually new creation, it is evident that he did not necessarily consider the first creation as a personal act of will. Nor is it inconsistent with his other views that matter should be eternal, eternally ordered and preserved by the infinite Substance.

Once only, at the close of his third Meditation, we find him in a moment of religious contemplation: "Here I think it the right place to pause and devote some time to the contemplation of this all-perfect God, to weigh at leisure all his marvellous attributes, to consider, to admire, and to adore the incomparable beauty of this Divine Light, at least as far as the strength of my spirit, which is in some sort dazzled by it, can allow me to

do so. For as faith teaches us that the sovereign felicity of another life consists simply in this contemplation of the Divine Majesty, so let us now experience that a similar meditation, tho incomparably less perfect, makes us enjoy the greatest satisfaction which we are capable of feeling in this life." This is a fine passage, and in another author might be interpreted in a deep and devout sense; in Descartes it means little more than the intellectual admiration of perfection.

Years afterwards the Queen of Sweden asked him, through Chanut, whether the light of nature teaches us to love God, and whether we can love him by reason of this light. His reply is very interesting (vol. x. p. 10, ed. Cousin): "I see two strong reasons to doubt it. The first is that the attributes of God usually taken into account are so far above us that we cannot conceive them in any way suitable to us, for which reason we exert in their case no act of will [as is the case in loving ordinary objects].

"Secondly, there is nothing in God which we can imagine [in the sense of *image*]; so that even if we had for him some intellectual love, it does not appear that it could be sensitive, because it must pass through the imagination to reach sense. Hence I do not wonder that some philosophers are persuaded that nothing but the Christian religion, in teaching us the mystery of the incarnation, by which God humbled himself to become like unto us, makes us capable of loving him; also that those who, without knowledge of this mystery, seem to have a passion for some Deity, have it not therefore for the true God, but for some idol called by his name, embracing, like the Ixion of the poets, a cloud instead of the queen of the gods.

"And yet I have no doubt but that we *can* love God by the mere force of our nature. I will not assert that this love has any merit without grace; this I leave to theologians; but I venture to say that, as regards this life, it is the most absorbing and useful passion which we can have, and it may even be the strongest, altho for this is required a very attentive meditation, because we are continually diverted by the presence of other objects. Now the way which I think should be pursued to arrive at the love of God is to consider that he is a Spirit or thinking Being, in which our nature having some resemblance with his, we come to persuade ourselves that this nature

is an emanation from his sovereign intelligence, *et divinæ quasi particula auræ*. Also, since our knowledge seems to be capable of increasing by degrees to infinity, that of the Deity, being infinite, is the goal to which our own tends; if we consider nothing else, we may arrive at the extravagance of wishing to be gods, and so, by a great error, of loving mere Divinity instead of loving God. But if we also attend to the infinity of his power, by which he has created so many things of which we are the smallest part; if we attend to the extent of his providence, which makes him embrace at a single thought all that was, and is, and is to come; to the infallibility of his decrees, which, tho they disturb not our free will, cannot by it in any wise be changed; and in fine on the one hand to our littleness, on the other to the grandeur of all created things,—observing how they depend on God, and how they are related to his omnipotence, without enclosing them in a sphere, like those who believe the world to be finite,—the meditation on all these things fills the man who clearly understands them with such extreme joy, that, far from being so insolent and ungrateful to God as to covet his place, he thinks that he has already lived enough in that God has favored him in arriving at such knowledge; and so, joining himself willingly to him, he loves him so perfectly as to desire nothing in the world but that God's will be done; hence he no longer fears death, or pain, or misfortune, because he knows that nothing can happen to him but what God has decreed; and he so loves this divine decree, he esteems it so just and necessary, he knows that he depends so entirely upon it, that even when it brings him death or some other ill, if it were conceivable that he could change it, he would not choose to do so. But if he refuses not ills and afflictions because they are sent by divine providence, still less does he refuse all the good or lawful pleasures which he can enjoy in this life, because they likewise are so sent, and receiving them with joy, without fearing any ill, his love renders him perfectly happy."

This exposition, tho accommodated to the pious Catholic Church, and the queen whose interest he sought to arouse, is anything but the Christian love of God. It might have been written by any Stoic philosopher, and indeed we often find some such trains of thought in what remains of their writings. The

only point which here really interests him is whether this intellectual wonder and inspiration can be called *love*, which is a passion, and is accompanied by a warmth and excitement of the heart. How different the mystic piety of Fénelon; how different the equally calm but more intense devotion of Bishop Butler in his "Sermons on the Love of God"!

On the nature of God Descartes speculates no further. He never touches any distinctively Christian problem. The case is not different when he comes to the second principal point where his system touches theology—the relation of God to man. He has a distinct theory of man's creation and daily preservation to propound, and nothing more. But this is so closely connected with the problem of the nature of the soul and its future destiny that we may consider them together.

It is more than probable that when Descartes commenced to philosophize, he started purely as a mathematician and physical inquirer. His deductive turn of mind led him to define and limit his data, and so he came to isolate them from the data of other sciences. I conceive him first of all eliminating theology, as a disturbing element, and then mental and spiritual data, as of no service in the field of mathematics and physics. It was doubtless his early and brilliant successes in this domain of knowledge which tempted him to approach the other side and speculate on metaphysic, on spiritual phenomena and their scientific treatment. Here he thought himself most of all successful, tho posterity has not endorsed his judgment. But we must not digress further from the matter in hand.

As regards the nature of the soul, Descartes insisted upon its essence being nothing more than we can clearly and distinctly perceive. We are conscious of the act of thinking, and this is not only our only and highest guarantee of the existence of ourselves as thinking beings, but also determines for us the nature of those thinking beings. He will allow no occult powers, no latent modifications, nothing but clear thinking and definite ideas. Any such distinction as mind and soul, or soul and spirit, he rejected absolutely. On the other hand, all approach to a material origin of the soul was equally precluded. The essences of mind and matter were diametrically opposed, and they were only combined into one human being by a special act

of the creating Deity, who attached a "divine particle" to each mortal body at the first moment of its existence, making up what Le Roy (Descartes' once favorite pupil) called *an accidental unity*, tho this phrase was disowned by Descartes on account of the theological storm it produced. This foreign soul was in some peculiar and inexplicable way—for mind and matter have no natural meeting-ground or possibility of mutual influence—more closely present to the body in the pineal gland, and through it all sensations passed to and from the mind, but *how* was to Descartes inexplicable. It was the mere arrangement of the Deity, a perpetual miracle, which his followers developed into the theory that the mutual influence was imaginary, and that the supposed action of each on the other was only the pre-established harmony in the parallel life of two independent creations made to act in correspondence by the Divine Artificer.

We can see already what must have been the position he took up as regards immortality. He stoutly defended and demonstrated the soul's *immateriality*, and in the proposed title of his "Meditations" professed to demonstrate its immortality also. But he failed to fulfil his promise; and when his friends, who read and criticised the first private copies, commented on this, he changed the title, and omitted this development of his argument. He says, in apology, that it would require so complete a knowledge of all his metaphysical system that it was premature to discuss it. But the ripe moment never came. We have indeed in one or two letters a clear statement of his private belief. In answer to Mersenne's query why he had not discussed the soul's immortality in the "Meditations," he replies (viii. 431) that this need not cause astonishment; "for I could not demonstrate that God cannot annihilate the soul, but only that it is of a nature totally distinct from the body, and therefore not naturally subject to death with it, which is all that is necessary to establish religion." We see here the key to the whole of Bishop Butler's first chapter in his "Analogy." Again (ix. 369): "As regards the state of the soul after this life, I know far less about it than [Sir Kenelm] Digby; for, leaving aside what faith teaches us, we may make many favorable conjectures and have many fine hopes, but no possible

assurance." This second letter is six years later (1646), and is written to his intimate friend Madame Elizabeth.

He seems, therefore, to have gone back to doubt as he grew older; for in 1642 he writes to Zuytlichem to console him for the loss of his wife: "I cannot abstain from offering you a remedy for your grief which I find very potent, not only to enable me to support the death of those I most loved, but also to prevent me from fearing my own, tho I think well of life. It consists in considering the nature of our souls, which I think I know so clearly will last after this life, and are born for pleasures and felicities much greater than those we here enjoy, provided that by our misconduct we do not make ourselves unworthy, and expose ourselves to the punishments prepared for the wicked; that I cannot conceive any other state for the most of those who die than that they pass into a life more sweet and tranquil than ours, where we shall meet them some day, even with a recollection of the past. For I find within us an intellectual memory which is certainly independent of the body; and tho religion teaches us many things on this head, yet I confess to an infirmity which is, I think, common to me with the majority of men. It is this, that tho we wish to believe and even tho we think we believe very firmly all that is taught us by religion, we are not wont to be so nearly touched by things which faith alone teaches us, and to which our reason cannot reach, as by those to which we are in addition persuaded by very evident natural reasons."

This interesting passage goes further than any other in all Descartes' remains. But it is quite plain why he never ventured to argue the immortality of the soul in his official works. Confining himself to the natural arguments derived from its immateriality, he was probably unable to explain, or perhaps to believe, the doctrine of the immortality of the body. And this is the fundamental point in the Christian faith. For tho in consoling Zuytlichem he speaks of rejoining the dead, with a recollection of the past, it is not likely that he was convinced of the *personality* of the immaterial souls in a future state. His expression *particula divinæ auræ* points rather to pantheism, tho he was far too cautious to leave us any statement favoring so damnable a heresy.

These were the chief points, indeed all the points, in which Descartes' essentially secular and almost heathen system came naturally in contact with the dogmas of Christian theology. His ethics were purely heathen, and a syncretism of the better points in the chief ancient systems. It remains for us to consider the points which the theologians of his day thought of special importance or of special danger, and the manner in which he met their attacks.

We may, of course, separate these theologians into two great classes, the Catholic and the Protestant. The former were chiefly French, the latter Dutch. But among the Catholic theologians we must again distinguish two distinct classes: first, those many learned men of the Jesuit order, of the Oratory, etc., whose chief interest was in science, who had adopted the frock and the tonsure rather to seek leisure for general study than to pursue the special object of theology. Descartes spent his time in Paris with these people; there is every evidence that they were very secular in spirit; they ridiculed privately the pretensions of the Roman Congregation to decide questions of philosophy; in all the correspondence of Mersenne and others there is hardly a word which smacks of the priest. These letters are intensely and thoroughly secular; indeed, Descartes' voluminous correspondence, supported by that of Gassendi and others of the same date, is a curious and little-cited demonstration of the large and liberal spirit which reigned in the higher portion of the Gallican church, tho the policy of the court was at times influenced by the vulgar side of the Jesuit order, and presently the day came when this order regularly persecuted Cartesianism. But during Descartes' life things were not so, and among these liberal and secular priests he found his best disciples and advocates.

Among those, on the contrary, whose proper business was theology, from the most serious and enlightened, like Arnauld, to the most flippant and vulgar defenders of scholasticism, like Bourdin, we find the same kind of objections urged, and urged with reason. First and most vital is their objection to the spirit of universal doubt, the determined scepticism which Descartes had so eloquently inculcated at the opening of his "Method." He had protested, indeed, that it was applicable neither to religion nor to morals, and he satisfied Arnauld of his honesty of purpose in

this particular. But who could fail to see the intense danger of such a temper of mind, who could prevent any eager spirit from applying such a method universally, and proceeding to reconstruct by means of initial doubt the truths of religion? This was, in fact, precisely what Spinoza did in his "Tractatus Theologico-politicus"—the first note of modern destructive criticism, the legitimate outcome of Descartes' "Method." Descartes, indeed, always intended his doubt as the mere introduction to the founding of a more certain knowledge; he was anything but a sceptic in philosophy. But in theology he was silently an agnostic, and the spirit which he preached, to test all things, to hold fast that which was clear only, was so manifestly allied to the reformation of religion, in fact to Protestantism, that we wonder this particular charge was not oftener brought against him during his life. His taking refuge in Holland, among Protestants, and for the special purpose of being theologically free, was too suspicious not to cause many hostile surmises. In Holland not only were his chief friends Protestants, but he actually apologizes, in a letter of recommendation written for two Catholic priests, who entertained him with good music near Egmond, for being intimate with men of this class—a society which he usually avoided. This principle, then, of substituting clear ideas and individual certainty for authority and dogma, tho only applied in philosophy, was fraught with momentous consequences to the Roman Church.

Apart from this general objection, we find certain special Cartesian doctrines questioned as inconsistent with the Catholic faith, and these especially by Arnauld, his fairest and most profound critic.

But first of all came the assertion of the earth's motion, which Descartes was unable to abandon, or to hide by means of subterfuges, even tho he was terrified by the fate of Galileo, and was almost deterred from ever publishing anything by the fear of similar consequences. In this particular case, tho he submitted formally to the church, he plainly evaded the heresy by a subterfuge, asserting that the circumambient ether in which the earth was situate moved in a great vortex, carrying the earth with it, as the sailor is carried in his ship over the sea, and is nevertheless considered at rest if he does not move in the ship.

To his intimates among the Catholic clergy he did not conceal that he thought the Roman Congregation of the Inquisition were no authorities in science, and ought not to shackle private opinion till confirmed by a General Council. And in spite of Galileo's condemnation, the doctrine of the earth's motion was believed and taught by many orthodox Catholics in France, not even the Jesuits showing any bigotry in the matter. The Protestant divines in Holland, on the contrary, were often vehement in opposing this novelty. In France the Reformed had openly rejoiced at the blunder made in condemning Galileo; in Holland, where the authority of Holy Writ, and of the synods in interpreting it, were substituted for the authority of the church, people were just as ready to condemn a dissenter of heresy as they were at Rome. "God had made the round world so fast that it could not be moved." How was this text reconcilable with Descartes' physics? Here, as often since, Protestantism was not so much the assertion of a spirit of free inquiry as the substitution of modern authority, or individual authority, for the consent of past ages, interpreted by the Roman Church. The Protestant divines believed fully as much in their own infallibility as the Roman Church did in hers, but without formally asserting it. If Descartes opposed the Council of Trent, he violated the dogmas of his church; if he differed from the Synod of Dort, he was said to reject the truth of Holy Writ. In both cases his crime was exactly the same; he differed from the opinions set up by two various societies, and called sacred and infallible by them.

We come to the more serious and well-meant objections of Arnauld. Some of them are so truly scholastic that they now only excite a smile. In what sense could God be called the cause of himself, and was not this an improper expression? How could the infinity of the world be compatible with the belief of the church about its creation? These were, however, mere speculative difficulties, of little import when compared with the difficulty concerning the Eucharist.

Protestant theologians are so fond of regarding the doctrine of transubstantiation as an absurd violation of common-sense, that it is well to remind the reader of its origin and meaning. The Peripatetic philosophy established the distinction between

substance and accident, and taught that the *substance*, or real essence of a thing, was something quite different from all its *qualities*, and *could never be perceived*, tho it held together and produced the qualities. This is the sphere ascribed to the idea of substance even in Locke's Protestant and Reformed philosophy. It is the unknown and unperceivable something which binds together the sensible qualities and unites them into definite and separated objects. Hence Catholic theologians saw a way of escape from this capital difficulty, that Christ himself had expressly taught (St. John, cap. vi.) the sacrament to consist in eating his flesh and drinking his blood, while our senses taught as expressly that no change was perceptible in the bread and wine used in the sacrament. On the Peripatetic theory there was no difficulty. Let us imagine the *substance* of Christ's body made to underlie the *qualities* of bread and wine, and the elements, while offering no change to the senses, will be in the more real sense his body and blood. For the substance was more thoroughly the essence of things than any transient or changeable quality. Hence the change in the elements was not for the senses; they could not perceive *transubstantiation*, and the invisible miracle of the Eucharist was one consistent with the ordinary nature of things.

Here, however, the philosophy of Descartes joins issue. One of its cardinal points is the denial of any essence, or substance, or anything else, in bodies, which we cannot distinctly perceive. The whole rubbish of sensible forms, second intentions, substantial forms, he cast to the winds. The essence of matter was its *extension* and nothing else, and this extension, instead of being something imperceptible, like substance, is of all attributes the most clearly and distinctly perceived. What then becomes of the doctrine of transubstantiation? Here was truly a capital difficulty, and one upon which the church could tolerate no wavering. If Descartes could not reconcile his theory with this cardinal dogma, it could not be declared sound in faith and pure in morals. The Protestants were boasting openly that he had destroyed the doctrine and even demonstrated its impossibility. Hence his Catholic opponents were ready to identify him with Luther and Calvin, while his Protestant foes charged him with sympathy for Bruno and Vanini, who had preached atheism under the guise of a vague pantheism.

Descartes felt himself obliged to reply to this objection in answering Arnauld, and this is the official answer to which his followers would have been wise to adhere. He urges that when we are said to touch the elements or perceive them by sense, we are only really in contact with their external superficies, and that the peculiar quality which their surface affords us is merely made up of the position and shape of the various minute particles of which it is composed. But the surface itself is only a mean term between us and the substance we touch; it does not form part of the essence of either the organ or the object. Hence if bread and wine are only so modified in transubstantiation that the new substance is made to occupy exactly the same minute places as were occupied by the particles of the old, then the new substance would affect our senses with its surface exactly as the bread and wine did. Descartes took care to add that he was only bound to show his doctrine *compatible* with that of the church, and that he had done so, even avoiding an additional and unnecessary miracle. For the Council of Trent had expressly declined to define the exact process of the miracle of transubstantiation, making the belief in the mere fact an article of faith.

Nevertheless, tho Arnauld expressed himself satisfied, it is plain that the above subtle explanation, which assumes the Cartesian (and Lockian) doctrine that all the secondary qualities of bodies are mere consequences of minute figure and motion, implies this heresy, that the body of Christ *did not remain itself in the Eucharist, but was changed into bread*. For with Descartes the assuming of the qualities of bread must mean becoming bread, and nothing else. And in later but anonymous letters Arnauld pressed this difficulty, and Descartes screened himself under the words of the Council of Trent to which I have just referred.

It gradually transpired, however, after Descartes' death, that he had ventured another explanation to the Jesuit father Mesland, a missionary to the North American Indians. This Descartes had done under promise of secrecy, or at least that the doctrine should in no wise be attributed to him if it did not conform with the decisions of the church. Fortunately for us, his ardent admirers could not keep it secret. It circulated, however, only in MS., and Bossuet, a warm but prudent follower of Descartes, so strongly advised its suppression, that the letter to Mesland was not published till 1811, in Emery's "Pensées sur

Descartes," afterwards in Garnier's edition, but unfortunately not in Cousin's. The document is very interesting.¹ Its substance is as follows: The word *body* is equivocal, and means either a mere fixed quantity of matter, or that portion of matter which is animated by a soul. In the Eucharist we must take it in the second sense. Whatever changes there are in the quantity or figure of our bodies, we still count them our bodies in this sense, or the bodies of individual men. Hence in digestion and assimilation we have every day a natural instance of transubstantiation. The particles of foreign matter which we assimilate could even be pursued and discovered in our substance, if our senses were sufficiently acute. Let us imagine the elements standing in exactly the same relation to the soul of Christ, as if they had been *naturally* assimilated, and they would, while remaining in one sense bread and wine, be in another, with equal truth, his body and blood. This relation is produced *miraculously* by the words of consecration, so that the separate particles of the elements which would naturally be combined in Christ's body to form his substance become so without this combination.

But if the former explanation changed Christ's body into bread, this changed the bread into his body, merely animating it by his soul, and so in either case transubstantiation was simply evaded. Hence no orthodox Catholic theologian could be satisfied with such subtleties, and in the century following Descartes' death the Jesuits made this heretical tendency, tho not openly professed, one of their main grounds for the persecution of Cartesianism.

Such disputes have now merely a historical interest, but are worth restating in order to show, in the first place, how thoroughly the problem in Descartes' mind was not to reconcile his philosophy with the dogma of the infallible church, but rather to explain the dogma of the church so as to agree with his own infallible philosophy—his clear and distinct perceptions. Secondly, this discussion is necessary to explain what now seems strange—the fury of the controversy as to *extension being the essence of matter*; since this theory, if adopted, led to serious

¹ The full text, which is little known, I have appended at the end of this paper.

consequences in faith as well as in philosophy. The Protestant divines were never weary in urging that both sides had proved their case; that Descartes had proved the essential extension of matter, and the theologians its inconsistency with the Council of Trent. Of course it suited them well to set reason and Catholic dogma at variance. But had they chosen to adopt Cartesianism more thoroughly, they would have found it equally dangerous to the safety of Protestant principles. For Spinoza was its real outcome, and the rejection of all miracles its logical development. Pascal, himself imbued with its principles, and in some sense a follower of Descartes—Pascal's evidence on this point is not known as it deserves to be, and yet it sums up the controversy in a few words. He used constantly to say: "I cannot forgive Descartes; he would have wished in all his philosophy to get rid of the Deity, but he was unable to keep from making him give a nudge to set the world in motion."

And this is really true. In spite of all the demonstrations for the existence of the Deity, in spite of all the assertions of this Deity as the prime Mover of matter, he was to Descartes no more than the *Noūs* to Anaxagoras, required for a starting-point and then dispensed with absolutely.

This curious chapter in the history of philosophy was at first obscured by those who would not see it; then by those who could not see it, for they studied Descartes at second hand. Last of all he was traduced by the Scotch common-sense school into an advocate of empirical psychology, the forerunner of Reid and Stewart. It is time that a return to the original documents should reduce all this misrepresentation to its proper value; but we must read the original documents not in the exoteric but in the esoteric sense. We must not accept the certificate of the renegade Queen Christina as a voucher for the orthodoxy of the philosopher. We must not accept his formal declarations—formal in every sense. We must judge him by the spirit of his doctrine, and by the general effect which his works produce not only in their statements, but also in their studied silence.

J. P. MAHAFFY.

The following is the letter referred to on page 319:

Quand, à l'occasion du Saint-Sacrement je parle de la superficie qui est moyenne entre deux corps, à savoir entre le pain (ou bien le corps de Jésus-Christ après la transsubstantiation) et l'air qui l'environne, par ce mot de superficie je n'entends point quelque substance ou nature réelle, qui puisse être détruite par la toute-puissance de Dieu; mais seulement un mode ou une façon d'être, laquelle ne peut être changée sans le changement de ce en quoi ou par quoi elle existe; comme il implique contradiction que la figure carrée d'un morceau de cire lui soit ôtée, et que néanmoins aucune des parties de cette cire ne change pas. Or, cette superficie moyenne entre l'air et le pain ne diffère pas réellement de la superficie du pain, ni aussi de celle de l'air qui touche le pain, mais ces trois superficies ne sont en effet qu'une même chose, et diffèrent seulement au regard de notre pensée; c'est à savoir, quand nous la nommons la superficie du pain, nous entendons que, bien que l'air qui environne ce pain soit changé, elle demeure toujours *eadem numero*, pendant que le pain ne change point, mais que s'il change, elle change aussi; et quand nous la nommons la superficie de l'air qui environne le pain, nous entendons qu'elle change avec l'air et non avec le pain. Enfin, quand nous la nommons la superficie moyenne entre l'air et le pain, nous entendons qu'elle ne change ni avec l'un ni avec l'autre, mais seulement avec la figure des dimensions qui séparent l'un de l'autre; si bien qu'en ce sens-là, c'est par cette seule figure qu'elle existe; car le corps de Jésus-Christ étant mis en la place du pain, et venant d'autre air en la place de celui qui environnait ce pain, la superficie qui est entre cet air et le corps de Jésus-Christ demeure *eadem numero* qui était auparavant entre d'autre air et le pain, parce qu'elle ne prend pas son identité numérique de l'identité des corps dans lesquels elle existe, mais seulement de l'identité ou ressemblance des dimensions; comme nous pouvons dire que la Loire est la même rivière qui était, il y a dix ans, bien que ce ne soit plus la même eau, et peut-être aussi qu'il n'y ait plus aucune partie de la même terre qui environne cette eau.

Pour la façon dont on peut concevoir que le corps de Jésus-Christ est au Saint-Sacrement, je crois que ce n'est pas à moi à l'expliquer, après avoir appris du Concile de Trente qu'il y est, *ea existendi ratione quam verbis exprimere vix possumus*; lesquels mots j'ai cités à dessein à la fin de ma réponse aux quatrièmes objections, afin de m'exempter d'en dire davantage. Et aussi, parce que n'étant point théologien de profession, j'avais peur que les choses que j'en pourrais écrire fussent moins bien reçues de moi que d'un autre. Toutefois, puisque le Concile ne détermine pas que *verbis exprimere non possumus* mais seulement que *vix possumus*, je me hasarderai ici de vous dire en confidence une façon qui me semble assez commode et très-utile pour éviter la calomnie des hérétiques qui nous objectent que nous croyons en cela une chose qui est entièrement incompréhensible, et qui implique contradiction; mais c'est, s'il vous plaît, à condition que, si vous la communiquez à d'autres, ce

sera sans m'en attribuer l'invention, et même que vous ne la communiquerez à personne, si vous jugez qu'elle ne soit pas entièrement conformé à ce qui a été déterminé par l'Eglise. 1^o Je considère ce que c'est que le corps d'un homme, et je trouve que ce mot de corps est fort équivoque, car quand nous parlons d'un corps en général, nous entendons une partie déterminée de la nature, et ensemble de la quantité dont l'univers est composé, en sorte qu'on ne saurait ôter tant soit peu de cette quantité que nous ne jugions incontinent que le corps est moindre et qu'il n'est plus entier; ni changer aucune particule de cette matière, que nous ne pensions que le corps n'est plus par après totalement le même ou *idem numero*. Mais quand nous parlons du corps d'un homme, nous n'entendons point une partie déterminée de matière, ni qui ait une grandeur déterminée, mais nous entendons seulement la matière qui est ensemble unie avec l'âme de cet homme, en sorte que bien que cette matière change et sa quantité augmente ou diminue, nous croyons toujours que c'est le même corps *idem numero*, pendant qu'il demeure joint et uni substantiellement à la même âme, et nous croyons que ce corps est tout entier pendant qu'il a en soi toutes les dispositions requises pour conserver cette union; car il n'y a personne qui ne croie que nous avons le même corps que nous avons dès notre enfance, bien que leur quantité soit beaucoup augmentée, et que, selon l'opinion commune des médecins, et sans doute, selon la vérité, il n'y ait plus en eux aucune partie de la matière qui y était alors, et même qu'ils n'aient plus la même figure, en sorte qu'ils ne sont *eadem numero* qu'à cause qu'ils sont informés de la même âme. Pour moi qui ai examiné la circulation du sang, et qui crois que la nutrition ne se fait que par une continue expulsion des particules de notre corps qui sont chassées de leur place par d'autres qui y entrent, je ne pense pas qu'il y ait aucune particule de nos membres qui demeure le même *numero* un seul moment; encore que notre corps en tant que corps humain soit toujours le même *numero* pendant qu'il est uni avec la même âme; et même en ce sens, il est indivisible; car si l'on coupe un bras ou une jambe à un homme, nous pensons bien que son corps est divisé en prenant le mot de corps en la première signification, mais non en le prenant en la seconde; et nous ne pensons pas que celui qui a un bras ou une jambe coupée soit moins homme qu'un autre. Enfin quelque matière que ce soit, et de quelque quantité ou figure qu'elle puisse être, pourvu qu'elle soit unie avec la même âme raisonnable, nous la prenons toujours pour le corps du même homme et pour son corps tout entier, si elle n'a pas besoin d'être accompagnée d'autre matière pour demeurer jointe à cette âme. De plus, je considère que lorsque nous mangeons du pain et buvons du vin, les petites parties de ce pain et ce vin se dissolvant dans notre estomac, coulent incontinent de là dans nos veines, et par cela seul qu'elles s'y mêlent avec le sang, elles se transsubstantient naturellement et deviennent partie de notre corps, bien que si nous avions le vue assez subtile pour les distinguer d'avec les autres particules du sang, nous verrions qu'elles sont encore les mêmes *numero* qui composaient auparavant le pain et le vin; en sorte que si nous n'avions point de garde

à l'union qu'elles ont avec l'âme, nous les pourrions nommer pain et vin comme devant. Or, cette transsubstantiation se fait sans miracle. Mais, à son exemple, je ne vois point de difficulté à penser que tout le miracle de la transsubstantiation, qui se fait au Saint-Sacrement, consiste en ce qu'au lieu que les particules du pain et du vin auraient dû se mêler avec le sang de Jésus-Christ et s'y disposer en certaines façons particulières, afin que son âme les informât naturellement, elle les informe sans cela par la force des paroles de la consécration; et au lieu que cette âme de Jésus-Christ ne pourrait demeurer naturellement jointe avec chacune de ces particules de pain et de vin, si ce n'est qu'elles fussent assemblées avec plusieurs autres qui composaient tous les organes du corps humain nécessaires à la vie, elle demeure jointe surnaturellement à chacune d'elles, encore qu'on les sépare. De cette façon, il est aisé à entendre comment le corps de Jésus-Christ n'est qu'une fois en toute l'hostie quand elle n'est point divisée; et néanmoins qu'il est tout entier en chacune de ses parties quand elle l'est; parce que toute la matière tant grande ou petite qu'elle soit, qui est ensemble informée de la même âme humaine, est prise pour un corps humain tout entier. Cette explication choquera sans doute d'abord ceux qui sont accoutumés à croire qu'afin que le corps de Jésus-Christ soit en l'eucharistie, il faut que tous ses membres y soient avec la même quantité et figure, et la même matière *numero* dont ils ont été composés quand il est monté au ciel. Mais ils se délivreront aisément de ces difficultés, s'ils considèrent qu'il n'y a rien de cela qui soit déterminé par l'Eglise, et que tous les membres extérieurs et leur quantité et matière, ne sont point nécessaires à l'intégrité du corps humain, et ne sont en rien utiles et convenables à ce sacrement, où l'âme de Jésus-Christ informe la matière de l'eucharistie, afin d'être reçue par les hommes et de s'unir plus étroitement à eux; et même cela ne diminue en rien la vénération de ce sacrement. Et enfin, l'on doit considérer qu'il est impossible, et qu'il semble manifestement impliquer contradiction que ses membres y soient; car ce que nous nommons, par exemple, le bras ou la main d'un homme, est ce qui en a la figure extérieure, et la grandeur et l'usage, en sorte que quoi que ce soit que l'on puisse imaginer en l'hostie, pour la main ou le bras de Jésus-Christ, c'est faire outrage à tous les dictionnaires, et changer entièrement l'usage des mots que de le nommer bras ou main, puisqu'il n'en a ni l'extension, ni la figure, ni l'usage. Je vous aurai obligation si vous m'apprenez votre sentiment touchant cette explication; et je souhaiterais bien aussi d'avoir celui du Révérend Père Vatier; mais le temps ne me permet pas de lui écrire.

WOMEN OF THE TWENTIETH CENTURY: A PROPHECY FROM HISTORY.

SECOND ARTICLE.

“Look around us where we will, we find nothing but a confused scene of contradiction, hardship, uncertainty, and arbitrary power. Thence arises our desire to render more perfect the laws upon which our lives and fortunes depend.”—VOLTAIRE.

“In rebus quibuscumque difficilioribus, non expectandum, ut qui simul, et serat et metat, sed præparatione opus est, et per gradus maturescant.”—BACON.

AT the conclusion of our first article we had reached that point in our historical examination where the technical fallacy of “unity in marriage” had become firmly imbedded in the law of England, and had begun to establish or direct all the important tendencies in the development of the relations of women to the social body. It would be an examination of extraordinary interest, if the limits of our paper made it feasible, to trace that evolution through the succeeding centuries to the present day. We could note the establishment of the tenancy by entirieties, so carefully elaborated by Littleton and his learned commentator, Lord Coke. We could deprecate the exclusion of married women, by express provision, from the benefits of the Statute of Wills, passed in the reign of Henry the Eighth. We could analyze the growing sense of justice which found expression in the development of the wife’s “sole and separate estate,” which the system of uses and trusts made possible—a device which quite abrogated the doctrine of unity without denying it. We could follow the intense conservatism of the English law into the modified conservatism of the early American law, which thought it wise upon this subject alone to allow the voice of precedent to drown the cry of justice. We could

describe the wave of legislative reform which swept over the States between 1840 and 1850, which completely wrecked the principle of unity in marriage on many points, but retaining in others introduced a system of marriage-laws which was neither consistent nor intelligible. And finally we could chronicle the steady progress of modern legislation towards the establishment of simple forms of simple justice, which promises shortly to sweep from the threshold of the home every vestige of the tangled web which mediæval ignorance and injustice began eight centuries ago to weave across it. But we must turn now to the facts from which our conclusions are to be drawn.

In reviewing the present status of the questions relating to the social position of women, let us first address ourselves to their part in industrial pursuits, which we have suggested as so important a consideration in determining their relative value and importance.

We must now direct our attention to the arguments of statistics, which, however dry and tedious, will be more apt to convince than any lighter or more fanciful process. It is believed that a few figures will enable us to get at once at the root of the matter.

The Census Report for 1880 takes notice of two hundred and sixty-five different occupations. Of this number it appears that women pursue, to a smaller or greater degree, two hundred and twenty-two. The foundation for all our calculations must be the relative number of women engaged in occupations compared with men. The census gives: males, 14,744,942; females, 2,647,157. These figures must in their turn be compared with the statistics of population, viz.: males, 25,518,820; females, 24,636,963. These comparisons give a general outline of the actual connection of women with industry throughout the Union.

A closer analysis of the occupations of women will furnish the following table:

Women engaged in Agriculture.....	594,510
" " Professional and Personal Services.....	1,361,295
" " Trade and Transportation.....	59,364
" " Manufactures and Mechanics.....	631,988

We will find, moreover, that of the whole number of women engaged in occupations, all but about three hundred thousand may be included under twelve forms of labor, viz.:

Domestic Servants.....	938,910
Agricultural Laborers (chiefly negro cotton-pickers).....	534,900
Milliners and Dressmakers.....	281,928
Teachers and Scientists.....	154,375
Laundresses.....	108,198
Cotton-mill Operatives.....	91,479
Farmers.....	56,809
Tailoresses.....	52,098
Employees of Hotels and Restaurants.....	31,065
Boot and Shoe Makers.....	21,007
Woollen-mill Operatives.....	35,506
Clerks in Stores.....	23,722
In Other Occupations.....	317,160

Women almost monopolize the offices of domestic servants there being about nine times as many women as men engaged in them. The same is true of millinery and dress-making. There are nearly twice as many women as men who are classed as teachers and scientists. Cotton-mills employ about thirteen thousand more women than men. The class of professional nurses has over twelve thousand women and about fifteen hundred men.

In the following occupations there appear to be no females employed:

Stock-drovers.	Civil Engineers.	Veterinary Surgeons.
Hunters and Guides.	Soldiers and Marines.	Bank Officers.
Draymen and Hackmen.	Teamsters.	Pilots.
Insurance Officers.	Railway Officers.	Steam-boiler Makers.
Blacksmiths.	Sash-makers.	Boat-makers.
Butchers.	Car-makers.	Carpenters.
Charcoal and Lime Burners.	Lead and Zinc Workers.	Engineers and Firemen.
	Marble and Stone Cutters.	Lumbermen.
Firemen.	Plasterers.	Oil-well Operators.
Machinists.	Masons.	Plumbers.
Pattern-makers.	Quarrymen.	Quartz-workers.
Pump-makers.	Roofers and Slaters.	Saw-mill Operatives.
Railroad-builders.	Ship-carpenters.	Sawyers.
Scale-makers.	Wheelwrights.	Stave and Shook Makers.
Stove-makers.	Hostlers.	Wood-choppers.

With the exception of two or three of these occupations, it is clear that the reason for the exclusion of women is the single

one that they do not possess the necessary physical strength—this lifting power of which we have spoken. We will consider hereafter whether this is likely to be a permanent bar.

There seems no sufficient reason why women should not freely enter any of the following occupations, nor why it is that they have apparently neglected them. The figures are taken from the last Census Report, and opposite each occupation the number of women engaged in it throughout the Union is given:

Apiarists (17).	Florists (230).	Architects (17).
Gardeners, etc. (1309).	Chemists (48).	Designers, etc. (56).
Journalists (288).	Physicians (2432).	Brokers (68).
Telegraphers (1131).	Telephoners (147).	Real-Estate Agents (39).
Bakers (1063).	Basket-makers (596).	Bone and Ivory Workers
Bookbinders (5491).	Engravers (103).	(171).
Lawyers (76).	Coopers (1).	Gold-workers (1967).

With the exception of the restrictions upon the practice of law by women in some States, and the difficulties women have in acquiring technical training, there seem to be no hindrances placed in their way in these occupations either by law or nature.

Now we are ready for an important inquiry. Do statistics show that the relative number of women engaged in occupations is steadily increasing? An examination of the following table taken from the census figures of 1870 and 1880 will give an affirmative answer:

Number of Females in Gainful Occupations in 1870.....	1,836,288
Increased by ratio of increase of population (29.03 per cent).	2,369,362
Actual number returned by Census of 1880.....	<u>2,647,157</u>
Excess over increase in population.....	277,795

We will next take up the question of women's wages. How do they at present compare with those of men for the same work, and are matters improving in this respect?

We will first direct our attention to a familiar illustration to which the community has recently had its attention called. Telegraphy requires no great physical strength, and in its pursuit women are brought directly in conflict with men. They are under no peculiar disadvantages of which we can learn, altho we understand from a Baltimore and Ohio official that they do not allow women to use their duplex machines on

account of the strain involved: but this is not the experience of other companies. After some difficulty, we have obtained the following figures in regard to the actual monthly wages paid women and men by the Western Union Company. We have taken the Wheatstone operators in order to insure uniformity. The operators are divided into three distinct classes, and the following table compares the average monthly wages of male and female operators:

	Beginners.	Medium.	Extra.
Women.....	\$15 00	\$25 00	\$30 00
Men.....	40 00	50 00	60 00

It is quite impossible to convince any person who has had an opportunity to observe the marvellous nimbleness of hand, lightness of touch, and quickness of comprehension of which women are capable, that these figures in any way represent the relative intrinsic value of the labor performed by the men and women respectively.

Another illustration, quite as forcible, is at hand in the report of the Commissioner of Education for 1881. The following statistics show the salaries of the men and women in the public schools. The public schools have been chosen in order to avoid the unfair effect which the large salaries of college professors would have upon the averages. The average monthly salary is given in each case:

STATE.	Men.	Women.
Massachusetts.....	\$85 54	\$38 49
Rhode Island.....	76 00	41 89
Nevada.....	99 50	74 76
Florida.....	40 00	40 00

Great significance is to be attached to this table. It will be noticed at once that in Florida, where there are about four thousand more men than women, the average salaries are the same, and in Nevada, where the men largely predominate, they are nearly equal, while in Massachusetts, where the women exceed the men by some seventy-six thousand, the women

receive about one half of the salary of the men. It is plain enough that the laws of supply and demand are at work.

But is it true that as women are admitted into additional employments and the pressure on certain points are removed their average wages are rising? With a view to answering this inquiry we have prepared the following table from the census statistics of manufactures; it is based on the manufacturing reports of the State of Massachusetts, and compares the weekly wages of male and female operatives:

OCCUPATION.	1840.	1850.	1860.	1870.	1875.	1880.
Weavers (women).....	\$2 42	\$3 52	\$3 73	\$5 90	\$5 35	\$5 33
Others (women).....	2 84	3 22	3 26	5 42	5 05	4 88
Mechanics (men).....	7 88	8 52	9 00	13 50	12 12	10 62
Carders (men).....	4 50	4 50	4 56	8 26	7 26	6 30

It will be seen that in the past forty years the wages of women in the departments given above have more than doubled, while the wages of men in the same classes of occupations have increased by only one third.

Before concluding our examination of women's relation to industry, let us direct our attention to two important opinions which have recently been rendered from high authorities. The first was in the case of Mrs. Mary G. Miller, who applied for a license to act as captain of a steamboat on the Mississippi River. Her application was refused by the local authorities, and she appealed to the Treasury Department. Secretary Folger, in reversing the decision below, made use of the following language: "There is no need of talk pro or con on the social status of woman's rights. Mistress Miller having been put on God's footstool by him, she has the right to win her bread in any moral, decent way which is open to any of his toiling creatures. If she chooses to do so as the master of a steam-vessel, it is an honest calling; and if she is fitted for it, tho clothed in skirts rather than breeches, she has a right to follow it, and no man should say her nay."

The second case was that arising lately in Philadelphia on the application of Mrs. Kilgore to be admitted to practise law in the law-courts of the city. Three separate courts in that

city took the ground that special legislation would be required before the privilege could be extended to women. In the third proceeding Justice Pierce delivered a dissenting opinion. "There are inherent reasons," he said, "why women should be admitted to practise law, growing out of the necessities of her fellow-women." And after expressing his indignation at the unjust and brutal rules of the common law respecting the property rights of married women, he proceeds: "And if this were not enough, denying them the right of earning their own livelihood by their talents which God has conferred upon them! How long are these relics of barbarism to be perpetuated? I am in favor of admitting Mrs. Kilgore to practise law as an attorney of this court."

Mrs. Kilgore's fourth application met with success. Judge Thayer, delivering the opinion of the court, said: "If there is any longer any such thing as what old-fashioned philosophers and essayists used to call the sphere of a woman, it must now be admitted to be a sphere with an infinite and indeterminable radius." And again: "It would not be the part of a wise judicial discretion to turn backward the wheel of time to convince history that it is all wrong and to say at this time of day that woman shall not be permitted to pursue the vocation that suits her taste and for which her studies have qualified her."

"It may be," says the Editor of the *Albany Law Journal*, in commenting upon the case, "that a woman under the existing laws is not competent as an attorney; but if so, the sooner such ridiculous laws are repealed the better."

It is unnecessary to remark upon the extraordinary advance in public opinion which is represented by these official views.

There is, perhaps, no better way of introducing a sketch of the present educational status of women than by mentioning some of the sources of information which have been put at our disposal. We have by us the circulars of information issued by the Cambridge Society for the Collegiate Instruction of Women (familiarly known as the Harvard Annex), the circular issued by Columbia College relating to its department for women; the report of the Massachusetts Society for the University Education of Women; notes from Smith College for Women, Wellesley College, the University of Michigan, and Vassar and Rutgers female colleges; the prospectus of the

Bryn Mawr College for Women, recently endowed with nearly a million dollars; and a great number of valuable reports and circulars from the National Bureau of Education relating to the subject, which Commissioner Eaton, with great kindness, has forwarded to us together with an exhaustive letter replying to some inquiries made of him, which were not answered in any printed matter. No words will speak so emphatically of the educational interests of women as the fact that there are at present in full operation in the United States two hundred and twenty-six institutions for the superior instruction of women.

With a view to proving the steady advance of public opinion in the matter of the higher education of women, we have copied the following table from the last Report of the Bureau of Education on this subject. It compares the numbers of institutions for the superior instruction of women during the past ten years:

SUPERIOR INSTRUCTION.	1871.	1874.	1876.	1878.	1879.	1880.	1881.
Institutions.....	136	209	225	225	227	227	226
Instructors	1,163	2,285	2,404	2,478	2,323	2,340	2,211
Students.....	12,841	23,445	23,856	23,639	24,605	25,780	26,041

It appears from this table that within the past ten years the number of institutions for the superior instruction of women has nearly doubled; that the number of instructors engaged in them is doubled, and that the number of students attending them is very considerably more than doubled.

The same report from which this table is taken uses the following strong language: "All that the advocates of higher education for women claim upon the ground of their capacity for development has been conceded in the United States." The official opinion of the Commissioner only follows in the wake of a strong public sentiment. The question of woman's intellectual capacity is no longer an open one. The public-school systems of the great majority of States recognize no sex in education so far as the opportunities are concerned, and the following figures will demonstrate the fact that the great mass of the community raise no question as to the importance of

at least a common-school education for girls as well as boys:

Total enrolment at Public Schools.....	9,946,160
Number of Females.....	4,825,301
Number of Males.....	5,120,859

The number of males exceeds the number of females by less than three hundred thousand. There is no occasion for any further demonstration in regard to primary instruction.

But are there any great number of women who are actually receiving full college training, or do these institutions of superior instruction include only intermediate, normal, and preparatory instruction? It is impossible to give exact figures in answer to this inquiry, but Mr. Eaton has kindly prepared for us the following approximate table which will not be found far out of the way:

<i>Intermediate.</i>	
City High Schools.....	24,833
Normal Schools.....	23,525
Academies and Seminaries.....	60,448
	<u>108,856</u>
Preparatory Departments for Women in Colleges and Universities :	
Universities and Colleges.....	7,009
Colleges for Women.....	7,016
Schools of Science.....	290
	<u>14,325</u>
Total Intermediate	<u>123,171</u>
<i>Collegiate.</i>	
In Universities and Colleges.....	3,122
In Colleges for Women.....	13,661
In Schools of Science.....	1,278
Total number in Collegiate Courses.....	<u>18,061</u>

It is fair to argue from these statistics very important conclusions. If it be true that the question of woman's capacity for the highest forms of intellectual training is really settled beyond dispute, and if great educational advantages are being offered her, which are yearly increasing in number and improving in character, and if she is actually making use of these advantages and the world is gradually becoming equipped with strong, carefully trained female minds, full of independence

of character and of strong natural force and individuality, can any of us measure the completeness of the reaction from social views in regard to the intellectual value and importance of woman, both to herself and to the community which is inevitable. Give the savage the knowledge of the use of the Martini rifle, and how soon will he discard his boomerang! Let our women once feel their intellectual power, and hold them back if you can. Give to women the power of letters and you have given up the contest. The army of educated women is growing to vast proportions. It will become irresistible, if it is not already so.

Hereafter women will mould their own future.

It is unnecessary to offer any detailed statement of the present legal and political rights of women. We have already alluded to the gradual removal of all restraint upon their entrance into any decent mode of livelihood. It remains to say a word upon their rights in a court of law. It may be news to some that there is no difference of any kind between the legal rights of the single woman and the man. The spinster has all the rights of property and contract that are possessed by the freest man. The general tendency of modern law is to give even the married woman, whose hardships at the common law were so grievous, the same rights as her husband. In no one of the advanced States of the Union does the husband's arbitrary right in his wife's estate remain, and it is no longer responsible for his debts. Conservatism still places restrictions upon her power to contract, but there is a strong tendency to do away with this absurd relic of the thirteenth century, and there is scarcely a State which does not allow the married woman to trade in her own name and right. She has in some States the absolute power of disposition of her property by deed or sale, and in almost all the absolute power of testamentary disposition. She retains most of her interests in her husband's estate as at common law, which he is not allowed to deprive her of by alienation. This is a manifest injustice, and is so considered by recent provisions of some of our States.

Women are to a certain extent quite without political power, and are regarded by the State in the same light as children,

idiots, and drunkards. The test of freedom in republican government, if the individual be of age and *compos*, is the suffrage. No taxation without representation. It is well known that women are denied this right. It is to be doubted whether the time has come for the extension of suffrage to women, but the tendency is undoubtedly in this direction. The denial of the right was based on the merger of the wife's person and property in her husband, and with the disappearance of both of those theories the franchise can no longer be refused her with justice or safety.

In conclusion, we must in so far assume the rôle of prophecy, in order to give any meaning to our title, as to gather up the threads of our argument, and to give to the historical and modern tendencies we have been studying what we believe to be their true value and significance. Are these tendencies temporary or permanent in character? And if we say permanent, what is the probable state of affairs to which they will have led the community within another century?

But first let us dispose of what appear to us to be two dangerous and misleading fallacies. We may remember the figures we have quoted in regard to the relative number of men and women in the United States. The males predominate by about one million (881,857). It is endeavored by many to argue that these figures prove beyond doubt that marriage is the inevitable future of women under the law of nature, and that no theory is worth anything which does not acknowledge this law as supreme. This argument would have held in the Garden of Eden before the Fall. It will doubtless be unsatisfiable when the millennium comes. But examine the figures in regard to the older States in the Union. The following table shows the unequal distribution of the sexes in five States:

STATES.	Males.	Females.	Surplus.
Pennsylvania.....	2,136,665	2,146,236	F. 9,581
New York.....	2,505,322	2,577,549	F. 72,227
Massachusetts.....	858,440	924,465	F. 76,025
Indiana.....	1,010,361	967,940	M. 42,421
Territories.....	443,201	341,242	M. 101,959

It will be seen from this table that in the three States of Pennsylvania, New York, and Massachusetts alone nearly one hundred and sixty thousand women are absolutely debarred from matrimony, and this without taking into consideration the state of bachelorhood. In almost all of the older States the women predominate by about ten thousand. To say that emigration will cure this evil, and serve to restore the special averages, is simply to add another piece of cheap sarcasm to the arguments with which some men meet the issue. To ask any intelligent man to believe that in the face of the modern developments this vast number of human beings will not advance in the direction of material independence is to require a position which is at once absurd and unjust.

Another mistake which is common and should be avoided at all hazards is that of confusing health with physical strength.

Insurance companies have hitherto refused to insure the lives of females, but we notice in the last Report of the Provident Life and Trust Company of Philadelphia a complete disallowance of any special risk thereby incurred. The report quotes with approval the following extract from a pamphlet written on the subject by a Dr. Schenck:

"From forty-five years and upwards women die at a decidedly lower rate than men, and the mean result over the whole life is in favor of female life. The English mortality rates for twenty-five years prove that there is not only less mortality among females, but there is also less disease, especially those diseases which are not nervous in character; not only so, but when any year is especially healthful the fact tells most in favor of female life."

It is to be remembered in the first place that these results are partly due to the less exposed occupations to which women direct their attention, and to the fact that they are greatly protected from all but one class of sudden deaths. But at best they have only a partial bearing upon the industrial problem. They possess great importance in serving as complete defences to the position that women are physically capable of great endurance for education or other objects, but they do not add to their physical strength in lifting a definite number of pounds a definite number of feet, nor are they any reply to the position

that in all occupations where brute force is the element of value women will suffer by comparison with men.

In exactly the same manner men will suffer when brought into competition with the mule or the steam-engine. Who will argue, therefore, that men are inferior to mules? Is it not plain now how important it is to measure similar values with each other and not with those to which they bear no relation?

May we not hope that some of our readers have anticipated us in our postulation of the following conclusions in regard to our "Women of the Twentieth Century"?—

It seems to be clear beyond all argument that women are by nature of lighter frame than men, and that they are subject to certain constitutional limitations (the most important being child-bearing) from which men are wholly free, and that this fact imposes upon them certain restrictions in competition with men in the most laborious pursuits. Therefore the average wages of women, or their average industrial value, is *ex necessitate* less than that of men. These limitations may be hereafter modified by a healthier mode of life, more rational modes of dress, and generous provisions of society; but it is impossible to suppose that they will ever be entirely removed.

But the multiplication of labor-saving machinery, the education of woman in industrial pursuits, the opening of new avenues of trade to her, will greatly enlarge the sphere of her industrial activity, while there are even at present a large number of lucrative occupations perfectly suited to her, and to which she will doubtless address herself very shortly.

The present low rate of wages paid to woman in pursuits to which she is adapted results not from her competition with men but from her competition with her own sex. She engages in a small number of occupations and over crowds them. As she takes up new pursuits and the pressure is relieved at certain points her average wages in these occupations will certainly rise. For reasons already stated, the lower class of women will still continue to be domestic servants, and this pursuit will always occupy the same position for women that the lowest and most laborious pursuits do for men.

It being admitted that women are fully capable of the

highest forms of intellectual culture, and the tendency being to afford them equal opportunities with men, another century will find them on an equality in every respect with men, so far as intellectual acquisitions and technical knowledge are concerned.

The tendency of modern law being to sweep away all distinctions of sex as regard the legal status of women and to return to the just position of the Saxon law, it is probable that the next century will bear no traces of the present obstructions that are placed upon married women.

As women increase in intellectual and industrial importance and gain intellectual and material independence, their individuality of character will be too distinct to be merged in that of their husbands by marriage, and a similar revolt which has newly defined the property rights of husband and wife will divide the parties to the contract into their separate unities and hear them both as members of the State. The woman's ideas will become strong, sound, and valuable, and she will be allowed to express them through the suffrage.

In general terms, the present harassing difficulties which a false and half-reformed conservatism places as a bar to woman's progress will, before another hundred years are gone, be entirely removed, and the sole limitations upon her advancing and taking her place by the side of man will be those imposed by nature, to which the wisest women will always give the closest heed.

Instead of being forced to struggle, with her limited strength and peculiar disadvantages, in the face of hindrances and discouragements which would dishearten the bravest men, society will cheerfully allow her to do her best under every possible and helpful convenience. The modern mill-stones which society, in its selfishness, blindness, and obstinacy, loves to hang around her neck will be lifted from her much-enduring shoulders by the hands of a gallantry more unselfish and a reverence more genuine than the shallow pretensions of modern society have ever known.

That all these advancements are in accordance with the natural and proper development of the social status of women seems to us to be clear. We cannot but think that altho the laws of social evolution will never, theoretically, permit the

return of social events to their original forms, none the less history lays at the doors of our boasted modern civilization a load of falseness and unfaithfulness to the trust of womanhood which no circumstances can palliate, and that society will find, when at last women shall force from it the common decency and fairness of treatment which one human being owes to another, that it has only retraced its steps to that almost prehistoric time when our ancestors were not too proud, too selfish, or too cruel to deal with a weaker and unprotected ward with honor and justice.

Who will care to say, who indeed will dare to say, that the future will not be to the greater glory of woman; to the greater strength and moral welfare of society; and to the achievement of an ideal of womanhood more beautiful, more noble, because less helpless, less pitiful than the sophistry of a century ago could possibly have dreamed of or imagined as the richest jewel in the crown of a century in whose shadow we stand?

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